Throughout Dr. Clarke's paper in the June number, pp. 148—151, *read* "Staphylococcus" *for* "Streptococcus."

The Bristol Medico-Chirurgical Journal.

SEPTEMBER, 1897.

FIFTEEN YEARS' EXPERIENCE OF INFECTIOUS DISEASES IN A PUBLIC SCHOOL.[1]

BY

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INFECTIOUS diseases are the plague of schools. Their introduction into the school community gives rise to serious risks, and to great inconvenience. The prevalence of any one infectious disease in a school disturbs the educational work, interferes with games or with matches with other schools, and if the disease be of a severe or dangerous character, it may damage the sanitary reputation of the school so badly that it may require years to recover from it; and even when there is no cause for alarm or anxiety, or danger to life, an attack often means a period of prolonged ill health to boys, causes constant worry and vexation to parents and masters alike, and is a continual anxiety to the school doctor; consequently the duty of keeping watch and ward against the admission of infectious diseases into the community over which he exercises medical supervision becomes one of his most important functions, and especially does this duty require his vigilance at the commencement of each school term, for in spite of the regulations[2] prepared with much care and issued to

[1] Read at the May Meeting of the Bristol Medico-Chirurgical Society.

[2] Those in force at Clifton College are printed on the next two pages.

CLIFTON COLLEGE.

RULES FOR THE PREVENTION OF THE SPREAD OF INFECTIOUS DISEASES.

1.—The following diseases are considered as infectious:—WHOOPING COUGH, MEASLES, GERMAN MEASLES OR ROSEOLA, SCARLET FEVER, TYPHUS FEVER, ENTERIC OR TYPHOID FEVER, SMALL POX, CHICKEN POX, DIPHTHERIA, INFLUENZA, MUMPS, RINGWORM, PURULENT OPHTHALMIA.

2.—No boy shall enter or return to the College who has had any infectious disease within a month, or who has been exposed to infection, without his Parents or Guardian giving notice to the Head Master and obtaining his permission. The required form of notice (A) can be had on applying to the Secretary.

3.—No boy shall enter or return to the College from a HOUSE in which there has been any infectious disease, or any person convalescent from such disease, until the following conditions have been complied with:—

(1) The House must be thoroughly disinfected in cases of SCARLET FEVER, TYPHUS FEVER, TYPHOID OR ENTERIC FEVER, SMALL POX OR DIPHTHERIA.

(2) Notice must be given to the Head Master and his permission obtained previous to the boy's return. The required form of notice (B) in the case of a boy having left the affected House; (C) in the case of the person affected having been removed from the House; (D) in the case of the boy having remained in the same House as the person affected, can be had on applying to the Secretary.

4.—CLOTHES worn during sickness or convalescence by a boy having had any infectious disease must not be sent with him when he returns to School. This Rule applies to all books and papers which he may have had with him during his illness or convalescence, and to boxes and portmanteaus which may have been in his room.

5.—A boy who has been exposed to infection from any of the above-named diseases during vacation time, *but who has previously had the disease in question*, may return at once to School, provided he comes direct to the Sanatorium for disinfection before entering his Master's House.

SPECIAL RULES REGARDING ENFORCED ABSENCE ON ACCOUNT OF INFECTIOUS DISEASE.

CASE A.—A boy who has been ill with—

WHOOPING COUGH,	may return to College		in six weeks from the commencement of whooping, if the cough has ceased.
MEASLES	,,	,,	in three weeks from the commencement of the illness, if all cough has ceased.
GERMAN MEASLES OR ROSEOLA	,,	,,	in three weeks from the commencement of the attack, if there is no desquamation.
SCARLET FEVER	,,	,,	in not less than six weeks from the date of appearance of the rash, if all desquamation has ceased.

TYPHUS FEVER,	may return to College		when strength is sufficiently restored; average time six weeks to two months.
*TYPHOID or *ENTERIC FEVER	,,	,,	when strength is sufficiently restored; average time about two months.
SMALL POX	,,	,,	when every scab has fallen off from the head and body: not under four weeks.
INFLUENZA	,,	,,	in fourteen days from the beginning of the illness.
DIPHTHERIA	,,	,,	in not less than four weeks from the beginning; when strength is restored.
CHICKEN POX	,,	,,	when every scab has dropped off; two to three weeks.
MUMPS	,,	,,	in twenty-four days from the commencement; if all glandular swelling has subsided.
*RINGWORM	,,	,,	when all active diseased growth has ceased; and no patches or broken hairs can be discovered.
OPHTHALMIA	,,	,,	when the case is pronounced well by the Medical Attendant.

* A Special Medical Certificate required.

CASE B—A boy who has not already had the disease in question, and who has been living in the same House with the affected person up to the day on which the disease declared itself, and then has been *immediately* removed to another House; or (CASE C), if the affected person has been immediately removed, must not return to College until the following time has elapsed after such removal has taken place:—

WHOOPING COUGH	16 days	SMALL POX	21 days
MEASLES	16 ,,	CHICKEN POX	21 ,,
GERMAN MEASLES (ROSEOLA)	21 ,,	DIPHTHERIA	12 ,,
SCARLET FEVER	14 ,,	MUMPS	24 ,,
TYPHUS FEVER	21 ,,	INFLUENZA	14 ,,
ENTERIC (TYPHOID) FEVER	21 ,,		

CASE D—A boy still living in the House where any of the above diseases break out, *and who has not already had the disease in question*, may return to School at the end of one fortnight after the last case has been declared free of infection by the Medical Attendant.

N.B.—Every boy who has been exposed to infection must come to the Sanatorium for disinfection before he goes to his Master's House.

Any sick boy may be sent to the Sanatorium, on the advice of the Medical Officer, or in a case of emergency by the House Master.

Day boys are admitted (if there be room) to the Sanatorium (for infectious illness) at a certain charge, and may be attended by their Family Doctor, unless the Parent should request the attendance of the College Doctor.

the parents or guardians of the boys, there is, I am sorry to say, a tendency occasionally to evade or escape from the rules laid down for their guidance.

I will give you an example. In the last term of 1896, Clifton College started with a clean bill of health. This continued for a fortnight, when a boy in one of the masters' houses developed mumps, and was at once removed to the sanatorium. On enquiring I found that this boy's brother at home had had a swelling at the side of his jaw. No one thought anything of it. It was not recognised as a case of mumps, and the Clifton boy was sent off to school. There can be little doubt that he had caught the disease from his brother, and the result of that mistake (which, of course, arose from ignorance) was, that 110 cases of mumps took place in the term, some of them being very severe. Probably if the medical attendant of the family had been called in the mistake would not have been made. In spite, therefore, of printed regulations, instances of this kind, arising from ignorance and occasionally although rarely from neglect in following the instructions, permit the introduction of some case of infectious disease which may spread with great rapidity through a young and very susceptible community.

The infectious diseases upon which I will venture to offer a few remarks to you are: influenza, sore throat, scarlet fever, measles, German measles, small-pox, chicken pox, diphtheria, whooping cough, mumps, ringworm, contagious impetigo, jaundice, and ophthalmia. The list is a long one, and therefore my remarks on each must be brief, and will touch mainly upon the points which have presented themselves to me during nearly fifteen years' experience as Physician to Clifton College.

Influenza.—We have had three visitations from this disease. One was in 1890, the details of which I brought before our local branch of the British Medical Association in the same year.[1] A second visitation occurred in 1895, when there were about 100 cases among the boarders. The type of the disease was severe, and sixteen cases of pneumonia occurred among them. Two of these ended in empyema. In both the chest was incised and drained by my colleague, Mr. Arthur Prichard. All these cases

[1] *Bristol M.-Chir. J.*, 1890, viii. 147.

recovered. A third case of bilateral empyema occurred in one of the town boys under my care. Both sides of the chest were opened by Dr. James Swain, and the boy quite recovered.[1]

A third visitation of influenza took place during the first term of the present year. There have been forty-four cases in all up to this date, very mild in character with one exception, but having this peculiarity, that in almost every case there was sub-acute inflammation (non-follicular) of the tonsils and arches of the palate. In the exceptional case I have just referred to, the throat symptoms were severe, but rapidly subsided, and were followed by the onset of pneumonia at the right base. Symptoms of pleuritic effusion set in, and in a fortnight after his admission seventy ounces of serum were aspirated from his right chest by Mr. Arthur Prichard. The case ended in empyema. The chest was incised and drained, but began to refill, when an accident occurred; about an inch or more of the drainage tube broke off inside the chest. Mr. Prichard then removed about an inch of the fifth rib, and succeeded in extracting the fragment of tube. Improvement immediately took place. The temperature fell almost to the normal point in the course of a few hours. After washing out the pleural cavity with warm boracic solution, the recovery was uninterrupted and rapid, and the patient went home quite convalescent.

Sore Throat.—Different forms of sore throat are by far the most common of the ailments affecting a public school. So far as I have observed, there are three special forms of sore throat to be met with among the boys. First, parenchymatous tonsillitis, generally affecting one tonsil, attended by pain and fever, occasionally ending in suppuration, and sometimes in a rheumatic attack, and probably best treated by the salicylates and alkalies. I have never regarded this form of sore throat as infectious, but some school doctors do regard it in that light—among them Dr. Haig Brown, the medical officer of Charterhouse. The second form of sore throat is follicular tonsillitis, a decidedly infectious disease, attended with yellowish or grey exudation on the tonsils, which exudation is, I believe, crowded with

[1] This case was reported in the *Bristol Medico-Chirurgical Journal* for December, 1893.

streptococci. Such cases are sometimes mistaken for diphtheria, but there is, I think, a difference even when looked at from a clinical point of view, without reference to the bacteriological test. The patient with follicular tonsillitis is not nearly so ill as one suffering from even mild diphtheria. There is seldom albumen present in the urine, and the exudation rapidly clears off under the administration of chlorate of potash and iron, and the use of disinfecting spray or gargles. And yet, I suppose, there must be some connection between them, for I have several times seen one mistaken for the other. One thing is certain, I think, these cases are very infectious, and I invariably isolate them. They were much more prevalent in the school some years ago than they are now, owing partly, I think, to the improvements that have been made in the drainage of the College houses.

The third form of sore throat I have observed is purely catarrhal. The symptoms are, intense redness of the fauces and pharynx, tonsils and palate, but with very little if any swelling; there is dryness of the mucous membrane, pain in swallowing, and fever. This is also infectious, but not so much so as follicular tonsillitis. There are also affections of the upper air passages, the nose, larynx, and trachea, acute and inflammatory in character, but I have never seen them assume an epidemic form except when complicated with influenza.

With regard to **scarlet fever,** I think the College has been wonderfully free from invasion from this disease, about which there exists so much apprehension in the public mind. I have never seen what I could call an epidemic of scarlet fever in the school. The only approach to it has been during the first term of the present year, when suddenly six cases developed in one house within a week, and a seventh in another house two days later. All these occurred in the junior school, but no further case appeared. Last summer a similar outbreak took place. Two cases occurred in one house, and a third in another, all in the upper school. There were no more. I need not say the cases were instantly isolated, and thorough disinfection of dormitories and infected studies was carried out at once. Formidable a disease as scarlet fever is when the type is severe in character, it is probably more under control than any of the other infectious

fevers which threaten schools. I may add as a matter of fact that there have been only fifteen cases of scarlet fever in Clifton College among the boarders (for I have no medical charge of the Town boys) during the fifteen years I have been physician to the school. This leads me to say that notwithstanding the disparaging remarks I have read occasionally as to the inefficiency of sulphurous acid fumigation, I still believe in it, and always adopt it, combining with it the washing of floors, walls, and woodwork with carbolic solution. At any rate this is the readiest and most convenient way of disinfection I know of, and I have always found it successful in stopping the spread of scarlet fever in the school. With reference to the period of incubation of scarlet fever, I think it seldom exceeds eight days, but the Medical Officers of Schools Association puts it down at fourteen. I think there is an unnecessary scare when scarlet fever cases occur in a large school. I hardly think it is justifiable unless the type of the disease be malignant. If this form were to appear it might become the duty of the school doctor to advise the closing of the house in which it appeared, or even the entire school; but with the type we usually see, such a course is not only unnecessary but mischievous, and should only be adopted in the very last extremity.

Although we have never in my experience had to deal with an extensive epidemic of scarlet fever, it is a very different matter with regard to **measles**. We have had no outbreak of measles since 1889, but we may have one at any time, as I know there are many boys now in the school unprotected by previous attacks. Most large public schools experience an epidemic of measles about once in five years. When it comes we generally have about 100 cases. It is impossible to stop its progress once it gets a footing, for it is very infectious in its early stages, even before the rash appears, and fresh outbursts take place once in fourteen days, until every unprotected boy has been attacked. Disinfection seems quite useless. Measles has given me a great deal more trouble and anxiety than scarlet fever, on account of the complications which arise, especially bronchitis, followed by asthma and acute purulent inflammation of the middle ear.

I have never seen a case of **small-pox** in the school in the

fifteen years I have been attached to it. The present Head Master introduced an excellent system when he was appointed nearly seven years ago, by which every new boy coming to the school is re-vaccinated in his second term, with the consent of his parents, if he has not been re-vaccinated successfully before. I think, therefore, there are now very few unprotected boys among the boarders.

Chicken pox is often met with, and most unprotected boys catch it if it enters a house. Most people think very lightly of it, but I have seen some severe cases, much resembling modified small-pox. It is a provoking disease to parents, who are worried by the necessary period of twenty-one days quarantine for the other young members of their family who have been exposed to the infection.

I have only seen one case of **diphtheria** during the fifteen years. The boy brought it at the beginning of a term from his home, where a few days after five other cases occurred among members of his family. It was before the days of antitoxin, and unfortunately, to my great regret, the boy died, not from extension of the disease to the larynx, but from cardiac failure.

Although I have not classed **typhoid fever** as one of the infectious diseases of schools, I may say we had one outbreak of it in 1884. There were, I think, three cases from the same house, and one death on the tenth day of the disease. It was this occurrence which led me to put before the Head Master and the Council the necessity of a thorough inspection of every Master's house and of the whole of the school premises: this was done, and the result has been the reconstruction of the drainage of every house in the school and of the sanatorium, carried out on the system of Mr. R. Field, who, I think, is the leader among sanitary engineers in the kingdom. Whether the cases of typhoid at this time were the result of faulty drainage in that particular house I cannot say, but at any rate we have had only one case of typhoid since, and the cases of infectious sore throat which used to be rather prevalent have been very infrequent since the improvements were made.

German measles, or as it is now called by the College of Physicians, **rubella**, is quite as difficult to stamp out when it

obtains a footing in a school as the ordinary measles. As I have on a former occasion made this disease the subject of a paper published in the *Journal* of our Society, I will not say more than this, that the epidemic on that occasion assumed features which were clinically almost indistinguishable from scarlet fever, and were a puzzle not only to myself but to some of my most experienced medical friends. I must refer you to the paper in question, published in our *Journal* for March, 1892.

With reference to **whooping cough** I have very little to say. I seldom see a case of it except among the little boys in the preparatory school, and owing to the long duration of the malady and protracted recovery from it, parents as a rule prefer to take the boys to their homes.

I remember hearing an excellent paper on this disease read in the section for children's diseases at our meeting of the British Medical Association in Bristol in 1894, by a physician from Edinburgh, in which he strongly advocated the necessity of including whooping cough among the other infectious diseases mentioned in the Notification Act. Seeing that whooping cough causes a greater mortality than any of the other diseases of childhood, there seemed to me to be fair grounds for advocating this proposition.

With regard to **mumps**, I think without exception it is the most vexatious and troublesome of all the infectious diseases which affect public schools; and its entrance is most difficult to prevent. During the autumn term of last year we had the most severe epidemic of mumps I have ever seen in the school. There were 110 cases, some of them very severe.

In this disease there is again some difference of opinion respecting the period of incubation and the duration of infectiousness after recovery. One distinguished school medical officer of my acquaintance, upon whose opinion I have generally been disposed to pin my faith, holds that boys may safely be sent back to school after an attack of mumps in sixteen days, provided no swelling of submaxillary or other glands remain. I think this period is too short, for in this epidemic I found that cases of orchitis occurred after the sixteenth day, no enlargement of glands being present. The committee of the Medical

Officers of Schools Association advise that four weeks should elapse before a boy who has had mumps should return to school. This, on the other hand, is very long, and very trying to parents who have to keep their boys at home doing nothing all the time. The truth probably lies between the two points, and therefore I think that the period of twenty-four days is a safe medium both for the length of incubation after exposure to infection, and for the duration of infectiousness in recovery from an attack. In this recent epidemic of mumps there were fourteen cases of metastasis to the testicle, a very large proportion. Some of them were very severe and painful, and attended with a high degree of fever. I have never seen any instance of atrophy of the testicle[1] nor any case of affection of the brain such as one sees occasionally recorded.

Contagious Impetigo.—This is the well-known football rash. The boys of different schools give it names according to their own lively imaginations, such as mud fever, college leprosy. In one school the boys, with an ingenious attempt to combine the disease with that part of the game where its home may be said to lie (the scrimmage), call it scrum-pox. It is known in Clifton as "The foot-and-mouth." There are some noticeable points about it. It is generally confined to the upper school. I have never seen a case in the junior school. It is almost exclusively confined to schools where the Rugby game is the rule; very few Association players suffer from it. Then the boys who are mostly affected are the forwards. This narrows down and localizes its *habitat* to the scrimmages, where the rubbing and scraping of heads and faces against rough and soiled jerseys, against the football itself, against muddy ground, and against each other are fertile places for the spread of this disease, provided only there be one boy in the scrimmage who has a small patch of impetigo on some part of his face or head. Mr. H. G. Armstrong, the medical officer of Wellington College, has investigated this subject very exhaustively, and has printed a paper which he read before the Medical Officers of Schools Association last year. He sent circulars to the different schools, and received replies

[1] Later examination showed that amongst the cases in which the testicle was affected wasting occurred in three.

from thirty-seven. He found that where the Association game is played, with two exceptions, the disease is unknown, and of fourteen schools where Rugby rules exist it is unknown in *four*, while at ten others it is of frequent occurrence.

The disease itself begins as a reddish spot, on which a vesicle forms, which bursts and forms a crust, under which there is a yellowish raw surface. It spreads not only from one boy to another by actual contact, but by auto-inoculation. I have never, I think, seen the disease upon any part of the body except the face, ears, behind the ears, and upper part of the neck.

Mr. Armstrong had the discharges from the sores submitted to bacteriological examination, under the direction of the Clinical Research Association. The following is an extract from Dr. Galloway's report[1]: "The investigations were conducted on the discharges and scabs and on inoculation directly made on culture media from the vesicles occurring on six patients affected. In all these cases there were obtained the staphylococcus pyogenes aureus, or albus, or both. Staphylococcus aureus seems to be the predominant organism. There seems, therefore," says Dr. Galloway, "no doubt that the pustular dermatitis from which the boys suffer is really an impetigo, but of a much more virulent form than the ordinary impetigo."

Dr. Walter Smith points out some of the recent advances in the etiology of diseases of the skin, one of them being the knowledge of the fact that "impetigo, boils, and carbuncles are invariably produced only under the influence of micro-organisms." He stated, as the result of investigation by Bockhardt and Garré, that microphytes enter the skin generally through a breach of the surface, but they can "penetrate into the lymph-channels of the skin through the intact epidermis. . . . If the micrococci invade only the epidermis we have a superficial pustule—*i.e.* (*a*) impetigo; if the intruders find their way deeper down the hair-follicles and gland-ducts, we have . . . (*b*) a boil, phlegmon, or suppurative folliculitis, and a congeries of furuncular points form (*c*) a carbuncle."

If these statements be true, the prophylaxis of this troublesome disease is plain, and might be summed up in one word—

[1] Mr. Armstrong's paper. [2] *Dublin J. M. Sc.*, 1892, xciii. 1.

disinfection. The boys' clothing, especially the jerseys, worn in the matches must be boiled or disinfected with hot air, or still better steam; but the principal point is, by careful inspection of the forwards especially, to exclude from the game any boy who presents a suspicious patch on his face.

As to treatment, disinfecting lotions of carbolic or boracic acid are, I think, the best. But the best ointment I have ever used was suggested to me by my friend Dr. Harrison, consisting of equal parts of unguentum hydrargyri ammoniati and unguentum zinci oxidi. This generally cures the disease rapidly, unless in some cases where from constitutional causes the disease becomes tedious and intractable.

Ringworm is a very rare disease in public schools. I do not think I have seen more than half-a-dozen cases. Dr. Harrison has helped me on many occasions with his knowledge and experience of skin diseases, especially of ringworm.

I saw one outbreak of **ophthalmia** in the college, and it impressed me greatly by the rapidity with which it ran through a house full of boys in the junior school. It was not purulent, it was merely catarrhal.

I believe we do not consider **jaundice** an infectious disease, and yet we know there are reported occasionally outbreaks of this affection which it is difficult to account for on any other hypothesis. I met with one instance of this kind among the boys of the college; several cases occurred rapidly one after the other, principally from one house. I could not discover that it was due to any special food the boys had partaken of. The cases were not severe, and were probably catarrhal in character.

What can be done to prevent the introduction of infectious disease into a school?

The first necessity is to have a good set of printed rules, a copy of which is sent to the parents or guardian of each boy. As I have already said, sometimes they are disregarded or neglected; but as a rule parents do attend to them, and this is of the greatest assistance in preventing the introduction of infection, especially at the beginning of a term. Then a great deal can be done to mitigate and prevent the spread of infectious

disease after its introduction by instant isolation, not only of the patient but of his bedding and clothes. That is easily effected in every public school which has a good sanatorium.

Again, sanitary inspections by the school doctor are of great importance. This has been done in Clifton College for many years at the beginning of each term, and a report sent to the Head Master.

Infection may enter a public school from many sources other than a faulty drainage system. It may arise from communication with a neighbouring town, which may be visited by the boys or by servants attached to the school. When an infectious epidemic exists in the neighbourhood of the school, the medical officer should be in frequent communication with the medical officer of health of the district. Dr. Davies most kindly supplies me with a map showing the places where the disease is most prevalent, and such locality can be placed out of bounds by order of the Head Master. Infectious illness occurring among masters' children or in the doctor's house must be dealt with stringently. Then infection may come from the laundry, from the dairy, or from contaminated water. Lately we have introduced into most of the houses the Pasteur-Chamberland filter, which I believe is the only filter of any value.

But, in spite of all that can be done and is done, the efforts of school doctors are often baffled, and the microbe, whatever it may be, defies their precautions and breaks its way through their strictest rules. Dr. Dukes, the able medical officer of Rugby School, suggests that nothing short of Government inspection of high-grade schools will make them approximate to an ideal condition, and that even that, without the annual publication of all cases of infectious disease occurring in them, would be insufficient. The publication of such a return would be productive of the most active reform in every public school in the kingdom, and of the severest competition for the highest state of sanitary perfection and the cleanest bill of health. Whether it would be possible or desirable to carry out such a scheme is another question.

DISCUSSION ON DR. FYFFE'S PAPER.

In the discussion which followed the reading of Dr. Fyffe's paper, Dr. A. J. HARRISON said he was inclined to regard six days as a complete cover for the period of incubation of scarlet fever. He considered the vapour of formaldehyde to be a better disinfectant than sulphurous acid, and that the cylinder of the Berkefeld filter is an improvement upon that of the Pasteur-Chamberland.—Dr. R. SHINGLETON SMITH said it was fortunate that Dr. Fyffe had been able to keep the careful records on which his present summary was founded. In reference to the contagiousness of the different kinds of sore throat and of common catarrh, Dr. G. F. Burder, a long time ago, had come to the conclusion[1] that common colds were in no way dependent on weather, climate, or period of the year.—Dr. J. O. SYMES remarked on the low infectivity of scarlet fever, contrasting this with rubella. He mentioned that in France children in the whooping stage of whooping-cough were regarded as non-infectious.—Mr. JAMES TAYLOR had once seen a case of orchitis due to mumps in an adult, who had a temperature of 105° and albumen in the urine. He suggested that perhaps metastasis to the kidney is possible.—Dr. E. MARKHAM SKERRITT said that Dr. Fyffe's experience of the slight infectiousness of scarlet fever in the early stage was in keeping with his own. So uniformly, in fact, did the disease fail to spread after early isolation of a case, that he had come to speak almost positively as to the immunity that would follow such isolation in any given instance. In this respect scarlet fever was a marked contrast to measles, the latter being highly infectious from the beginning, and hence almost always spreading in spite of early removal of the patient and careful disinfection.—Dr. PARKER called attention to the extreme difficulty of diagnosis between follicular tonsillitis and diphtheria in the early stages before albuminuria and paralysis occur. He had long looked in vain for some basis, but had not found one, which was thoroughly trustworthy, either in the cardiac or local symptoms, or even in the results of a single culture. He regarded the suggested possibility of the incubation of scarlet fever lasting more than seven days as most improbable, both from the recorded facts and from the analogy of other short-term fevers.—Dr. F. H. EDGEWORTH advocated the treatment of unilateral parenchymatous tonsillitis by large doses of quinine.—Mr. C. A. MORTON suggested that after many months examination should be made for possible atrophy of the testicles, the result of the orchitis complicating mumps.—Dr. FYFFE stated in reply that he regarded rubella as a much more infectious disease than scarlet fever, and remarked upon an epidemic of the former which had taken place in Clifton College, and the great difficulty of distinguishing the symptoms from those of scarlet fever. Enlargement of the post-cervical glands in cases of rubella is probably the most distinguishing feature. He emphasized his remarks respecting diagnosis between follicular tonsillitis and diphtheria in its early stage, and agreed that cultures should be repeated several times before absolute certainty is reached.

[1] *Bristol M.-Chir. J.*, 1884, ii. 217.

THE CAUSES OF DEATH IN FIVE CASES IN A COLLIERY EXPLOSION.

BY

TRAFFORD MITCHELL, M.D. Glasg., D.P.H. Camb.

ON the morning of 5th January, 1897, an explosion occurred in the Broadoak Colliery, Loughor, Glamorganshire, by which five out of the seven men at that time underground were killed. Fortunately, the explosion took place after most of the night men had left the work and before the colliers had descended.

In view of the interest excited by Haldane's *Report on the Causes of Death in Colliery Explosions*, and the prominent part he assigns to carbon monoxide in the production of the fatal results, H.M. Inspector of Mines (Mr. J. T. Robson) directed me to make a thorough external examination of the bodies, with a view to discovering the probable cause of death in each case. With the assistance of Dr. A. C. Davies, I did so eleven hours after the explosion, and the following is a brief statement of the appearances noted:—

Bodies Nos. 1, 2 and 3 exhibited superficial burns of the exposed surfaces, with detachment of the cuticle, except in the case of the palmar surfaces. The hair of the head and face was in each case singed, but the clothes were uninjured.

Bodies Nos. 4 and 5 showed no evidence of burning or violence.

Body No. 1 was markedly differentiated from the other four by the fact that cadaveric lividity was intense, that the insides of the lips were almost coal black, and that the eyes were suffused with dark blood.

Bodies Nos. 2 and 3 were distinguished by a pale, bloodless condition of the lips, eyes congested and pink, and the dependent parts bright pink. In No. 2 both hands were clenched; in No. 3 only the right one.

Bodies Nos. 4 and 5 showed the same condition of the eyes as Nos. 2 and 3; but the lips were of the same colour as in life, the countenance abnormally florid, and the expression tranquil, whilst the dependent parts were brightly pink and the other surfaces less markedly so. No. 4 grasped his lamp, whilst No. 5 held his cap firmly in his right hand.

The first body was evidently that of one who had been asphyxiated through deficiency of oxygen and excess of carbon dioxide. That this man's safety lamp was open at the time of the explosion was clearly demonstrated at the inquest. In his endeavour to escape he had run a distance of twenty yards from the spot at which the two halves of his lamp were found.

The fourth body was unmistakably that of a man poisoned by carbon monoxide. To confirm my own conclusion, I requested Mr. Seyler, the public analyst, to make a spectroscopic examination of a small quantity of blood removed from this body on the afternoon of the 6th January, and he found the spectroscopic reaction for carbon monoxide very marked. Ere succumbing this man had run a distance of over 100 yards, and the body was discovered by the exploring party following his footsteps.

Body No. 5 was equally unmistakably, with No. 4, a case of carbon monoxide poisoning. He also had tried to escape, but had not succeeded in running far.

Nos. 2 and 3 at the time of the explosion were working at a distance of about sixty yards from the point where the explosion commenced and in its direct line. They had made no effort to escape, and were found lying beside the tools with which they had been engaged filling rubbish into a small tram, to which a horse was attached. Both these men were apparently in the first place rendered insensible by sudden and intense shock, upon which supervened the action of carbon monoxide. The effect upon the horse seems to have been of the same nature. Though it was burnt also, it evidently made no struggle to escape, and its lips exhibited the same bloodless character.

The two men who escaped owed their safety primarily to a narrow passage, which acted efficiently as a barrier. Up to within twenty yards of the place where they were working the action of fire is apparent, the coal dust on the timbers having been converted into bright glistening coke. A puff of wind which extinguished one of their lamps made them suspicious that something was wrong, and they ran to the bottom of the pit. Neither seeing nor hearing anything suspicious, and not

encountering any gas or afterdamp, they speedily returned and resumed their work. The blowing away of doors by the force of the explosion had evidently established such a circuit of air as carried the products of combustion away from them. One of them joined the first rescue party that descended the mine, and accompanied them in their explorations.

TWO CASES OF INTUBATION IN ADULTS.

BY

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THE necessity for intubation of the larynx in adults arises sufficiently seldom to make it worth while recording the two following cases occurring within a short time of each other.

CASE I.—M. S., aged 40, female, was admitted to the Bristol Royal Infirmary on February 12th, 1897, under the care of Dr. Shingleton Smith. She was suffering from considerable dyspnœa and pain in the larynx with troublesome cough, and her voice was reduced to a hoarse whisper. Three weeks previously she had caught cold, her voice not becoming affected, however, until a week later; but for the past week the difficulty in breathing had gradually increased. There was slight pyrexia ranging from 99° F. to 101° F. She was treated, on the assumption that the laryngeal affection was of an inflammatory nature, by leeches to the throat, diaphoretics and steam tent.

Notwithstanding this the patient's symptoms got steadily worse, paroxysmal attacks of cough with urgent dyspnœa accompanied by inspiratory stridor occurring frequently; and on the second day after admission the urgent distress of the patient necessitated immediate relief to the breathing. It was decided to attempt intubation, and this was performed with some difficulty after several unsuccessful attempts, considerable force having to be used to get the tube (the largest of O'Dwyer's set of six) through the stenosed glottis. The throat had been previously well cocainised. Considerable cough was at first caused by the presence of the tube, but later, when the patient got accustomed to it, great relief was obtained. The tube was worn for two days, during which time the patient had to be fed by nutrient enemata, as any attempt at swallowing food, either by gulping or by suction through a tube, caused a violent attack of coughing. After removal of the tube the breathing remained fairly easy, but the voice was still very husky.

An examination of the larynx on February 21st showed the following condition (Fig. 1): On the left a subglottic swelling is seen projecting below the left vocal cord, which is fixed by inflammatory infiltration at

the base of the left arytenoid cartilage. An extensive inflammatory mass is also seen external to the thyroid cartilage and in the pyriform fossa. The patient was given iodide of potassium in increasing doses, although there was no history of syphilis, and she continued slowly to improve, the voice, however, remaining husky.

FIG. 1.

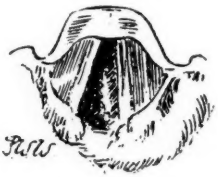
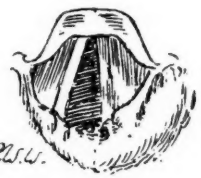


FIG. 2.



On March 6th the laryngoscopic appearances (Fig. 2) were as follows: There is now no subglottic swelling; the left cord is fixed in the cadaveric position; and the considerable swelling below and external to the left aryteno-epiglottic fold is still very obvious.

The larynx was much the same on the patient's discharge on March 16th, and as she left the city her case could not be further traced.

This was a case of cricoid perichondritis, as evidenced by the swelling outside the aryteno-epiglottic fold and projecting below the glottis; there was also pseudo-ankylosis of the left arytenoid cartilage at the time the intubation was performed. The swelling in and around the larynx must have been much greater than is depicted in Fig. 1, as the drawing was not made until a week after the tube had been left out, the patient's breathing being then fairly easy.

The condition was probably due to cold, of which there is definite history, no evidence of syphilis being obtainable; and it appeared to be getting well without suppuration or necrosis of cartilage, which is such a common termination of these cases.

CASE II.—J. N., aged 45, male, was admitted in the early morning of March 15th, 1897, under Dr. Shingleton Smith. He was suffering from extreme inspiratory dyspnœa, with sucking-in of supra-sternal and supra-clavicular regions. He was livid and covered with a clammy sweat, and his face was expressive of the greatest anxiety. There was considerable stridor, but no laryngeal excursion. He was only able to utter a few words at a time, and those in a hoarse whisper. Two days previously he had noticed "a cold in his throat," which got worse as the day went on, and during the night his breathing became difficult. Next day he consulted a doctor, who gave him a gargle, but his breathing continued to get worse until he came to the Infirmary.

As the diagnosis of the case was uncertain, a little time was expended in trying the effects of sedative draughts—cocaine spray and inhalation of nitrite of amyl: these, however, failed to give any but the slightest relief; and as he was gasping for breath it was decided to try intubation, and, failing this, laryngotomy or tracheotomy. The largest of O'Dwyer's tubes was inserted easily, with immediate and complete relief to the distressing symptoms. Ten minutes later, however, the patient coughed up the tube, notwithstanding that it appeared to have been well placed in position, and the symptoms returned at once. This occurred a second time; but on a third time inserting the tube the throat was well sprayed with cocaine to lessen the cough which

immediately followed, and the patient retained the tube until the following morning (eight hours), when he again coughed it up. Although considerable dyspnœa remained, it was not enough to necessitate the use of the tube again.

The condition of the larynx after expulsion of the tube (Fig. 3) was as follows: The cords are very red and only abduct to a very slight extent, the figure showing the extreme degree of abduction. There is some subglottic swelling.

After examination of the larynx, the patient was put in a steam tent, two leeches applied to the front of the neck over the larynx and ammonium acetate given. His breathing remained very bad for a week; but five days after that he was sufficiently well to be made an

FIG. 3.

FIG. 4.

out-patient, and the condition of his larynx then was as in Fig. 4, which was taken during deep inspiration. The left cord is more movable than before. The right cord is fixed by pseudo-ankylosis of arytenoid cartilage. The right vocal process showed pachydermia with corresponding depression in the opposite cord.

An examination of the larynx on April 24th showed that it had almost completely recovered; the right cord, however, failed to reach full abduction, and there was still a little pachydermia remaining.

This case was probably an acute septic laryngitis; and the glottic obstruction at the time the intubation was performed must have been extreme, as after the tube was left out—the breathing being then much better—but a small chink remained, as shown in Fig. 3. The pachydermia may be accounted for by the fact that the man was a heavy smoker, and his occupation—a cattle drover—necessitated an excessive use of the voice.

Intubation in adults may be a simple or difficult operation, as evidenced by these two cases. Apart from the condition existing in the larynx itself, the ordinary difficulty is due to the distance from the teeth to the glottis rendering it awkward for the guiding finger to conduct the tube to its right position. This is materially aided if, at the moment the tube has cleared the epiglottis, the assistant holding the gag be requested to depress the head forwards a little, when the tube will then pass down into the larynx. With regard to feeding in these cases: some nervous patients may require nutrient enemata all the

time, as occurred in the first of these; but most patients will be able to feed themselves by sucking up fluids through a glass tube, the head being placed low or on one side, as happened in the second case, or by taking some fluid into the mouth and gulping it down over the larynx.

There cannot be many conditions in which intubation in the adult will be indicated. It is only of use in temporary conditions to tide over a crisis. It will not find its application in such conditions as tubercular or cancerous disease of the larynx, and in but very few syphilitic or paralytic conditions; whereas catarrhal laryngitis and diphtheria but rarely give rise to sufficient obstruction to necessitate interference.

I am indebted to Dr. Shingleton Smith for permission to publish these two cases, and to Dr. Watson Williams for kindly allowing me to make use of sketches made by him during the course of the cases.

A CASE OF HÆMOPHILIA WITH JOINT-LESIONS.[1]

BY

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Physician to the Bristol Royal Infirmary.

A SHORT account of the subject of this notice was published by the late Mr. Greig Smith.[2] At the risk of some repetition, however, an outline of the clinical history must be given now to explain the full meaning of the illustrations.

Alfred P., aged 30, single, a relief-stamper by trade, was admitted to the Bristol Royal Infirmary on March 16th, 1897, complaining of passing blood in his urine.

FAMILY HISTORY.—Two brothers died in infancy from hemorrhage, aged fifteen and seventeen months respectively—in one case from hemorrhage from the mouth, and in the other from the opening by incision of a small abscess of the scalp. Two other brothers and three sisters

[1] Read at the May meeting of the Bristol Medico-Chirurgical Society.

[2] *Bristol M.-Chir. J.*, 1884, ii. 264.

have grown up without manifesting the hemorrhagic diathesis. A maternal uncle is thought to have died of bleeding, but this is not absolutely certain. There is no other fact in the ascertainable family history pertinent to the question of hereditary liability to hemorrhage.

PREVIOUS HISTORY.—Patient was born in London, and at seventeen months of age was admitted to St. Thomas's Hospital with swelling of the left knee. He has been told that the swelling burst, and that the wound was kept open for a month; he remained in hospital on this occasion six months. Within two months of his discharge he was re-admitted on account of the diseased left knee. At five years of age he was an inmate of the Bristol Hospital for Sick Children, with his left knee bad as before. At seven years of age he was in the Bristol General Hospital on account of the condition of the same joint. At eleven years of age patient was struck with a stone on the inner side of the right knee; the joint became very much swollen, and he was brought to the Bristol Royal Infirmary under the care of the late Mr. Tibbits, and remained there on this occasion four months. The right knee and elbow were aspirated, and blood was withdrawn from both joints. Fig. 1 shows him as he was at this time, before aspiration of the joints was performed. There is hæmarthrosis of right knee and elbow, subsequently relieved by the aspiration; slight enlargement of the left knee is also visible. Shortly after this he suffered from hæmatemesis for two months. At thirteen years of age he suffered severely from epistaxis. At seventeen years of age he was again in the Bristol Infirmary under Mr. Greig Smith, suffering from uncontrollable hemorrhage from a wound of the left thumb. This is the occasion when Mr. Greig Smith described his case as above-mentioned. He remained an in-patient for three weeks, and in two months more he was re-admitted for hemorrhage from the gums. Again at the ages of eighteen and twenty years he was in the Bristol Infirmary under Mr. Greig Smith for bleeding from the gums; at the latter age he had an attack of small-pox, which was not hemorrhagic at all. At twenty-one

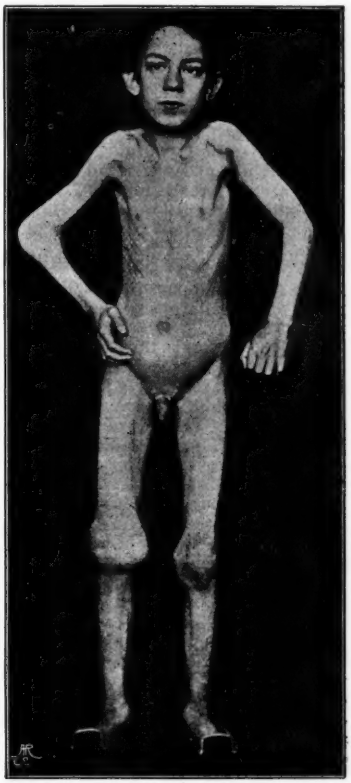

FIG. 1.

years of age he is said to have had an attack of rheumatic fever. Two years ago, when aged twenty-eight, patient had a tooth extracted, followed by hemorrhage for a week. He states that hemorrhage from the gums is preceded for one or more days by twitching of the eyelids. Since early childhood he has been subject to temporary pains of an acute nature, affecting the larger joints of the limbs, accompanied by swelling: this swelling is always preceded by a "jumping" sensation and feeling of heat.

History of Present Illness. — Six days ago patient noticed that his urine was dark brownish-red. There has been neither pain nor difficulty in micturition during this period, although the colour has been so abnormal. The frequency of micturition and the amount of urine passed have not deviated from the normal.

Condition on Admission.—Thin and rather cadaverous in appearance, complexion sallow, face marked with scars of small-pox. Height, 5 ft. 8 ins.; weight, 8 st. 9 lbs. Temperature subnormal. *Circulatory and respiratory systems:* nothing specially abnormal. *Digestive system*: lips pale, but not excessively so, gums spongy and liable to bleed, teeth very carious, breath fetid. *Hæmopoietic system:* spleen, thyroid and lymphatic glands all normal. Blood contained 55 per cent. of hæmoglobin, corpuscles 4,000,000 per c.m., leucocytes slightly in excess of the normal. *Nervous system:* knee-jerk scarcely present. *Urinary system:* urine of deep brownish-red colour was found to contain much hæmoglobin and albumen; microscopically the deposit was found to be composed of blood corpuscles and urates, there were no casts of any kind, nor epithelium. *Arthritic system:* both elbows and both knees are larger than normal; the styloid process of each ulna is enlarged, as also to some degree are the lower ends of each tibia. The upper radio-ulnar joint of each arm is larger than normal, from enlargement of the head of the radius, which in rotation of the fore-arm seems to move eccentrically. There is no free fluid in these joints, the enlargement being bony. The elbow-joints can be flexed to the normal degree, but extension is impossible beyond an angle of about 130°. The knees are always flexed, the left the more so; the left knee can be moved through an angle of about 35° only, the right 75°. Movements in all these joints gives rise to a coarse grating or crunching sound, and is sometimes painful. At the edges of the articular surfaces of the bony structures forming the knee-joints marked "lipping" can be felt on palpation; the phalangeal, metacarpo-phalangeal and metatarso-phalangeal joints are not affected, nor apparently the hip and shoulder joints.

Subsequent History.—In the days following that of admission, patient passed upon one or two isolated occasions urine free from blood, which was also non-albuminous, otherwise the hæmaturia persisted in variable degree of severity. Upon several occasions he had attacks of severe "colic" associated with the left kidney, requiring even hypodermic administration of morphia for the relief of the pain; these attacks were followed by the passing of blood-clots in the urine. Many examinations of the blood were made during the patient's stay in the Bristol Infirmary; the hæmoglobin fell to 28 per cent., and the corpuscles to 3,500,000 on April 18th. In many films examined, both stained and unstained, no special nor permanent abnormality was observed: the leucocytes seemed sometimes in excess of normal, and sometimes not so, and towards the end of his stay the multinuclear leucocytes were partly replaced by lymphocytes. No retinal hemorrhages occurred, and the gums only bled occasionally. The urine became finally free from blood on April 20th, nearly five weeks after admission. In addition to the permanently enlarged condition of cer-

tain of the joints of his extremities, he suffered from frequent attacks of acute effusion around and *perhaps* slightly into these same joints; these attacks were preceded by definite prodromata: several hours before the joint-lesion began, there was always a feeling of "pins and needles" in the fingers or toes of the same limb, and a feeling of heat in the joint. The next morning there would be considerable swelling superficial to the ligaments of the joint and beneath the true skin, and one or more spots about the area of a shilling or less would be extremely tender on pressure, at the same time the joint would be extremely painful on being flexed or extended. It was doubtful if any effusion took place into the synovial sac itself on these occasions; if there were any such, it was extremely slight. These attacks were not induced by use, exertion, or trauma, but occurred without obvious exciting cause. The patient could always prophesy infallibly when any joint was going to be thus affected, from the occurrence of the sensory phenomena about twelve hours before the swelling. The condition usually passed off in two days. Some ecchymosis followed each puncture by the hypodermic syringe; but in pricking the finger for blood examination some difficulty was encountered in obtaining blood, but none in checking hemorrhage from these punctures.

In the way of *treatment* he was given calcium chloride for the first three weeks in doses of eighty grains per diem; to this was added on April 1st three tabloids of thymus gland a day; on April 7th the calcium chloride was replaced by sulphuric acid and quinine, and this again on April 15th by oleum terebinthinæ in doses of half a drachm a day. After the cessation of the hæmaturia he was ordered iron and quinine only. Operative procedure was not seriously considered, as the hemorrhage never put his life in actual danger, and only an urgent necessity would have justified cutting down upon the kidney.

The case is one of considerable interest. Firstly, the patient has lived beyond the age to which hæmophiliacs usually survive, partly, no doubt, from the skilful treatment he has so often received in hospitals since infancy. Should his life be prolonged, he will probably lose his hemorrhagic tendency.

Secondly, the evolution of the present condition of his affected joints has been watched from infancy also. At St. Thomas's Hospital he was supposed to have "white swelling" of the knee. In 1878 the right knee and elbow were aspirated, and free blood withdrawn from each joint, and the case then recognised as one of hæmophilia. Now he appears to get very little or no effusion into the joints, but instead the curious peri-articular lesions before described, preceded by sensory phenomena, while hemorrhage from the gums is preceded by motor phenomena also. The affected joints are found by examination and shown by skiagraphic delineation to be in a condition similar to that of rheumatoid arthritis. The articular ends of the bones are much enlarged, the cartilages extensively absorbed, and very distinct

"lipping" exists at the edges of the articular surfaces. A skiagram (Fig. 2) of the right elbow-joint is here given. It

FIG. 2.

shows great enlargement of the head of the radius, some "lipping" at the edge of the sigmoid fossa of the ulna, and thinning of the articular cartilages. Even in recent literature the joints in this disease are imperfectly described, and are said to resemble, more or less closely, tubercular joints. Positive error upon this ground is sometimes made. J. E. Summers, Jun., reports[3] a case in which an enlarged ankylosed knee, occurring in a boy aged ten years, was diagnosed as "quiescent tubercular arthritis." The joint was resected, and the patient died in twenty-four hours from uncontrollable hemorrhage, the operator discovering too late that he was treating a hæmophiliac. Bowlby,[4] in a paper entitled "Some Cases of Joint-Disease in Bleeders," gives a true description of the nature of the lesion. Skiagrams were taken of the knees also in this case; but owing to the inability of the patient to extend his knees, the results were not very clear, and the prints therefore are not here reproduced, but great enlargement of the condyles and "lipping" were apparent. A photograph (Fig. 3) from the front shows great enlargement of the articular ends of the femora and tibiæ.

[3] *Med. Rec.*, 1896, xlix. 336. [4] *St. Barth. Hosp. Rep.*, 1890, xxvi. 77.

Thirdly, it is to be noticed that unlike rheumatoid arthritis, the fingers and toes completely escape implication.

Fourthly, medicinal treatment probably had little effect. Calcium chloride failed to exert any styptic action, and nuclein administered in the form of thymus gland did not apparently act as a stimulant to hæmopoiesis, or even leucocytosis. Treatment can hardly be otherwise than unsatisfactory where the pathology is unknown.

FIG. 3.

Fifthly, the nerve symptoms preceding the acute attacks in the joints would suggest that these lesions are a form of spinal arthropathy.

Sixthly, the hereditary element in this case appears to be defective; but persons in this class of life seldom know much of the medical history of their ascendants, and this case may possibly be as truly hereditary as others from well-known "bleeder" families.

Lastly, Senator's oft-quoted case would have justified nephrectomy, had life been placed in actual danger from the hemorrhage.

After the narration of Dr. Shaw's case, Dr. G. PARKER said it would be interesting to know if in hæmophilia there was an absence of contraction of the clot and its subsequent concavity. It was said by Bensaude that this does not occur in purpura hæmorrhagica, though it does in normal blood and in rheumatic purpura.

Progress of the Medical Sciences.

MEDICINE.

The proved value of **thyroid extract** in myxœdema and other conditions has led to numerous researches into the nature of the active principles of the gland. Kinnicutt states[1] that "Baumann has isolated an iodine-bearing compound of albumin and globulin, which he has named 'Iodothyrine,'" and believes to constitute the active principle of the gland. R. Hutchison finds[2] that "the thyroid contains two proteids—a nucleo-albumin and the colloid matter"; the former is small, the latter large, in amount. The colloid contains a little phosphorus and much iodine, and is the only specifically active constituent of the gland. Both the non-proteid and the proteid parts of the colloid are active; but the former (which is apparently identical with Baumann's iodothyrine) is the more so.

How does thyroid extract affect the metabolism of the body? L. A. Gluzinski and Ig. Lemberger[3] obtained the following results in a healthy man: for a preliminary period of seven days an accurate estimation of the constituents of the food ingested, and of the excreta, was carried out, until nitrogenous equilibrium was established, with a slight gain in body-weight and retention of nitrogen (N. balance positive). Then during the administration of thyroid tabloids for six days there was a slight diminution of weight—due to loss of fat and water, and not to any excessive disintegration of nitrogenous tissues. They found that thyroid extract, however, exerts an accelerating influence on nitrogenous tissue-change, this influence increasing with the duration of its administration. When, after an interval of six days, *fresh* calf's thyroid was given, during a second period of four days, in about the same doses as the tabloids, this preparation had a much more energetic action, causing a more rapid loss of weight; and in this process of disintegration the nitrogenous tissues shared, as shown by the increased loss of N., which exceeded the N. intake (negative N. balance). This loss of weight continued, though with less degree of nitrogenous tissue-change, for three days after the administration had been stopped. It is important to note the more energetic action on the nitrogenous tissues of the fresh gland than that of the tabloids. These facts offer a probable explanation of some of the discrepancies in the results obtained by other observers. R. David,[4] who administered large doses of thyroid tabloids,

[1] *Am. J. M. Sc.*, 1897, cxiv. 1. [2] *J. Physiol.*, 1896, xx. 474.
[3] *Centralbl. f. innere Med.*, 1897, xviii. 89.
[4] *Ztschr. f. Heilk*, 1896, xvii. 439; abstract in *Centralbl. f. innere Med.*, 1897, xviii. 565.

found that the nitrogen excreted in the urine was much increased and that this increase continued after the drug was stopped, and then suddenly ceased. Coincidently there was loss of weight, diuresis, no difference in the amount of uric acid, but increase in that of phosphorus excreted. In a case of myxœdema treated by iodothyrine for six days, the patient lost 1.9 kilos. in weight in ten days, this being attended with an increased elimination of nitrogen. So also Irsai, Vas, and Gara[1] found in three cases of goître treated with thyroid tabloids a diminution in the size of the goître; a decrease in the body-weight, the loss varying in amount with the duration of treatment; an increase in the quantity of urine and in the nitrogen excreted, and also in the excretion of sodium chloride and phosphoric acid. On these results the treatment of obesity by thyroid extract is based. "In patients who react to treatment, the loss of weight varies from 2—11 lbs. a week, without restriction of diet; but after a time a limit is reached, beyond which a further reduction is not obtained. The loss of weight is more rapid during the first days of treatment than later; subsequently it varies in amount from week to week. . . . The loss is usually unattended with any disturbance of health. As a rule, the discontinuance of treatment is quickly followed by an increase of weight, which shortly reaches its former level. Only exceptionally is the improvement maintained for any considerable period, although careful dieting and exercise prolong its duration."[2]

In **cretinism** the success of the thyroid treatment has been remarkable. The results attained are, according to Dr. Rushton Parker:[3]—(1) Absorption and disappearance of the various myxœdematous deposits and swellings. (2) Great and rapid increase in physical development, shown especially by a rapid growth of several inches in height, even in cretins of 20—30 years of age, and an increase in the body-weight. (3) Diminution of such deformities as spinal lordosis, bulkiness of head, depressed nose, &c. Owing to the softening of the bones produced by thyroid extract, there may, however, be increased deformity (bowing) of the legs. (4) A rapid and striking increase of intelligence. Dr. John Thomson, in the same discussion, showed that the rate and amount of the increase in height is in inverse ratio to the age of the patient and to the stage of the treatment. Thus children grow more than adolescents, and adolescents more than adults: the rate of growth is at first very rapid, but becomes slower as the height approaches that of the normal for the age. He also notices the tendency to spinal curvature and bowing of the legs, and thinks that mental improvement is not distinct until the sixth or eighth month of the treatment, and forms part of a general amelioration. Dr. Telford Smith said that he had given thyroid extract to idiots

[1] *Deutsche med. Wchnschr.*, 1896, xxii. 439. [2] Kinnicutt, *loc. cit.*
[3] "A Discussion on Sporadic Cretinism in this Country and its Treatment." *Brit. M. J.*, 1896, ii. 615.

belonging to the so-called Mongol type, who most nearly resemble the cretin, and found both physical and mental improvement, which varied inversely as the age of the patient, but was not so marked or so rapid as in the case of cretinism. It is advisable to employ small doses in these cases.

Thyroid extract has been successfully employed in **insanity.** Dr. C. G. Hill[1] has treated forty cases, consisting chiefly of commencing senile dementia, acute mania and melancholia, of whom eight were unaffected by the treatment, twelve were somewhat, fourteen very much, improved, five cured, and one died. He states that the drug had an altogether extraordinary influence on the mental condition of the patients. Amongst clinical symptoms during the use of the remedy, rise of temperature and pulse-rate, gastric disturbances, increased perspiration and quantity of urine, transient albuminuria in 10%, œdema of face and extremities, cyanosis, desquamation of the skin, sexual excitement, so that masturbation in three cases necessitated the discontinuance of the thyroid extract, were observed. Of sixty cases treated by Bruce, there were twenty-four recoveries; and in twenty-two cases reported by Babcock, four recovered and eleven improved. Kinnicutt[2] says that Allen Starr places "the highest value upon the treatment in a form of mental disturbance occurring at the climacteric. He describes it as a mental depression with anxiety and morbid fears, but without delusions or insomnia." Clouston says "that large doses of thyroid are of marked benefit in cases which threaten to become chronic, and that no case should be allowed to become incurable without a trial of this method of treatment." Dr. Henry J. Berkeley[3] treated eight insane patients with thyroid tablets, beginning with one daily, and increasing to three if no grave symptoms appeared. In addition to loss of weight, tachycardia or feebleness of cardiac action, slight pyrexia, digestive disturbances, and increased perspiration, irritability and a greater or less degree of mental and motor excitement were remarked in all cases, no matter how depressed or demented they had been previous to the administration. Two patients became frenzied. Of the eight patients one recovered, one died of acute miliary tuberculosis, in the others there was no improvement. Dr. Berkeley concludes that the administration of even the best and purest thyroid tablets "is not unattended with danger to the health and life of the patient, and . . . may be followed by symptoms not only difficult to control, but of very marked influence upon the future mental powers of the subject." He also administered thyroid tablets to five mice and three guinea-pigs; the lethal dose in the latter could be exactly estimated, and was found to be from 1 to 2 % of the body-weight. Examination of the cerebra of these animals by the most approved

[1] *Tr. M. & Chir. Fac. Maryland*, 1896, p. 30; abstract in *Centralbl. f. innere Med.*, 1897, xviii. 566.

[2] *Loc. cit.* [3] *Johns Hopkins Hosp. Bull.*, 1897, viii. 137.

histological methods failed to show any morbid changes; the poison corresponds in its action to that of a group of chemical poisons that leave no trace of their effect after death upon the nerve cell, but during life induce symptoms directly referable to the central nervous system.

Many observers report good results from the administration of thyroid extract in **goître**; it appears to be most efficacious in simple hyperplastic goître, the cystic form being unaffected, except for a shrinking of the parenchymatous tissues surrounding the cysts. Diminution in size rather than complete disappearance of the tumour is the general result.

In **skin diseases** thyroid extract has been used with some success in the treatment of psoriasis; in other affections of the skin it does not appear to be of value.

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Dr. Kinnicutt[1] has collected forty-eight cases of **Addison's disease treated with various preparations of the suprarenal gland.** Six are reported as cured or well, twenty-two improved, eighteen unimproved, and in two an aggravation of the symptoms occurred. Of the six recoveries, in one the patient has remained well for four months; in another the patient was well eighteen months after the beginning of the treatment, and has been able to return to work, and in a third the patient remained well twelve months afterwards. Of the cases in which improvement was reported, relapse and death occurred in two, and relapse in a third, in which the treatment was irregular. In a fourth treatment was suspended after a month, on account of failure of appetite, and the patient died. In a fifth there was improvement for three months, when sudden death occurred on giving up the treatment. Another patient improved during regular treatment, but fell off rapidly during the subsequent eight months when it became irregular. In another, improvement was maintained for twelve months, and work was resumed, but death occurred at the end of this time. Relapses occurred in one case when the treatment was suspended. In a woman under my care with all the classical symptoms of Addison's disease, who was so weak that she was obliged to keep her bed on admission to the Hospital, remarkable improvement resulted from two months treatment, the pigmentation disappeared, and she returned to her work as a laundress; but, unfortunately, I could not trace her after she left the Hospital, so that I do not know the ultimate result. A daily dose equivalent to 45 grains of the fresh gland is recommended.

Drs. Abel and Crawford[2] conclude, from their researches into the constitution of the blood-pressure-raising constituent of the suprarenal capsule, that it is to be classed with the pyridine bases or alkaloids, and that it is not possible to split off pyrocatechin from the isolated active principle. Mühlmann

[1] *Loc. cit.*

[2] *Johns Hopkins Hosp. Bull.*, 1897, viii. 151.

supposed that the blood-pressure-raising constituent is pyrocatechin joined to some other substance, probably an acid; but according to Abel and Crawford this is not the case.

On account of its remarkable power of raising the blood-pressure, the administration of suprarenal extract has been advocated in those cases of **anæmia and neurasthenia** in which there is a loss of vaso-motor tone.

Dr. Solis-Cohen[1] has given **suprarenal extract in exophthalmic goître**. In two cases, not of severe type, the tremor and cardio-vascular phenomena were improved; in another marked case a similar result was gained; a fourth patient was made worse. Compared with thymus the suprarenal extract seemed to have a greater influence upon the circulation and less effect upon the goître and exophthalmos.

* * * *

Svehla[2] has made a series of experiments on dogs with dried and watery extracts of the **thymus** from bullocks, pigs, dogs, and man. The effect on the circulation was chiefly studied. He concludes that injection of thymus extract (into the femoral vein) is followed by a fall of blood-pressure due to weakening or paralysis of the vaso-constrictors, and increase of pulse rate, due to direct influence on the heart. When large doses were given there was excitement, followed by dyspnœa and collapse, ending in death, with *post-mortem* appearances of asphyxia. Hence it is possible that some of the so-called cases of "thymic asthma" in children may be due to an excess of thymic secretion in the blood.

The use of **thymus extract in exophthalmic goître** appears to have followed from the good effects obtained in one case by Mr. David Owen, of Manchester, in which the butcher supplied the patient with thymus instead of thyroid gland. Dr. Hector Mackenzie[3] has made a careful investigation into the value of thymus extract in this disease. Of fifteen cases collected by him from the literature of the subject, fourteen were reported as decidedly improved. His personal observations amount to twenty patients treated by thymus extract, of whom one died, six remained the same, and thirteen were somewhat improved. In no case however did the extract exhibit such a distinctive influence on the most important symptoms, and on the course of development of the disease as to be recognisable as a specific remedy for it. He also treated by the usual methods, for comparison with the foregoing, twenty other cases presenting an approximately similar condition of pulse, goître and exophthalmos. His conclusion is that only the general condition of the patient was improved by the thymus treatment. The size of the dose showed no marked effect. Dr. Solis-Cohen[4] reports improvement in six out of twelve cases of exophthalmic goître

[1] *J. Am. M. Ass.*, 1897, xxix. 65.
[2] *Wien. med. Bl.*, 1896, xix.; abstract in *Brit. M. J.*, 1897, i. Epitome, p. 88.
[3] *Am. J. M. Sc.*, 1897, cxiii. 132. [4] *Loc. cit.*

in which he had administered thymus extract. Goître, exophthalmos, palpitation were improved, and nervousness, insomnia, and tremor very much relieved. Maude[1] has published four cases which received benefit, but he does not think that the results attained were greater or more permanent than they might have been under other treatment or none at all. Kinnicutt[2] gave a careful trial of the thymus to two patients for two months, but without any beneficial effect upon any symptom. One of the cases improved subsequently under belladonna and bromides.

On account of the apparent influence of thymus extract on the general nutrition, Dr. Kinnicutt also treated six selected cases of **apyrexial pulmonary phthisis** with doses of 45—60 grains daily, given continuously for two months. In five of the six cases an increase of weight occurred during the first weeks of treatment. The gain was followed by a loss varying in amount. In only one case was there no loss in weight during the two months of the thymus treatment. In all the cases there was little or no change in the general condition and in the physical signs.

* * * *

Dr. Kinnicutt[3] has collected thirteen cases of **acromegaly treated with pituitary gland** preparations. In seven cases varying degrees of improvement were noted: in one of them under the combined use of pituitary and thyroid extract; in five cases there was no effect; and one patient was made worse. Improvement took place in the general condition, and in the headache and neuralgic pains.

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Dr. H. C. Wood[4] has treated **exophthalmic goître by splenic extract,** the treatment being based on the complete recovery of a case of chronic exophthalmic goître after an acute attack of splenitis, with subsequent discharge of an abscess of the spleen. A good result was obtained in one case, but there is some difficulty in giving the extract, as sufficient doses by the mouth are apt to cause dyspepsia, pain, and vomiting, and hypodermically to produce great irritation locally.

J. Michell Clarke.

SURGERY.

Painful affections of the sole of the foot without obvious lesion have been the subject of study by surgeons in all countries for many years past, and numerous cases of neuralgic affections of the sole of the foot have been recorded under the generic title of "Neuralgia," or the more particular title of "Metatarsalgia"; but the first who made a scientific study of the subject was Thomas G. Morton, of Philadelphia, who published his classical paper, entitled "A Peculiar and Painful Affection of the Fourth

[1] *Lancet*, 1896, ii. 173. [2] *Loc. cit.* [3] *Loc. cit.*
[4] *Am. J. M. Sc.*, 1897, cxiii. 511.

Metatarso-Phalangeal Articulation," in 1876.[1] Since that time the affection has been universally spoken of by the name of "Morton's Painful Foot," and it seems right that this name should be perpetuated, inasmuch as Dr. Morton was the first to demonstrate the true pathology as well as the treatment of this hitherto obscure and intractable affection. He pointed out that the pain was always localised in the fourth metatarso-phalangeal articulation; in some instances it followed at once after an injury of the foot, in others it was gradually developed from pressure, while in others there was no recognised cause. Of fifteen cases recorded by him, thirteen were in females and only two were in males.

A typical case was as follows: A lady, while walking down a steep ravine in Switzerland, trod upon a large stone which rolled from under her foot, causing her to slip, throwing her entire weight upon the forward foot; though not falling, she found the right foot injured; the pain was intense and accompanied by fainting sensations. After this she found it impossible to wear a shoe even for a few moments, the least pressure inducing an attack of severe pain. At no time did the foot or toe swell or present any evidence of having been injured. During the succeeding five years the foot was never entirely free from pain; often her suffering was very severe, coming on in paroxysms. She could wear no shoe except a very large one, and that only for a limited space of time, invariably being obliged to remove it every half-hour or so to relieve the foot. The pain was always referred to the metatarso-phalangeal joint of the fourth toe; during the severe paroxysms it extended, occasionally, to the knee. There was neither redness nor swelling anywhere about the foot. The head of the fourth metatarsal, with the phalangeal base, and the soft parts about the joint, were exceedingly sensitive.

This case was a type of all the cases met with by Dr. Morton, and the explanation of the cause of the affection as given by him is as follows: The metatarso-phalangeal joints of the first, second, and third toes are often found on a line with each other; the head of the fourth metatarsal is found to be from one-eighth to one-fourth of an inch behind the head of the third; while the head of the fifth is from three-eighths to half-an-inch behind the head of the fourth. Thus, while the joint of the third is slightly above, the joint of the fifth is considerably below the metatarso-phalangeal articulation of the fourth; the base of the first phalanx of the little toe is thus brought on a line with the head and neck of the fourth metatarsal, and the head of the fifth opposite the neck of the fourth. It will further be found that lateral pressure brings the head of the fifth metatarsal and the little toe into direct contact with the base of the first phalanx, and head and neck of the fourth, and to some extent the extremity of the fifth metatarsal rolls above and under this bone.

[1] *Am. J. M. Sc.*, 1876, lxxi. 37.

The superficial branch of the external plantar nerve separates into two digital branches which supply the outer and inner sides of the fifth toe, and the outer side of the fourth; small branches being distributed between the fourth and fifth toes, about the metatarso-phalangeal joints. These nerves are liable to be bruised or pinched between the fourth and fifth metatarsals, where movement is freer than between the others, and this accounts for the neuralgia occurring here. Dr. Morton's explanation, although not altogether satisfactory, is probably the best that can be offered, and no better one has since been advanced. The treatment adopted and recommended by him in all severe cases was excision of the fourth metatarso-phalangeal articulation, which in every case had the desired effect of completely curing the pain, without materially interfering with the usefulness of the foot.

Many other writers afterwards recorded cases of Morton's Painful Foot, and all of them continued to recommend the **treatment by excision of the joint,** particularly Dr. Thomas S. K. Morton, of Philadelphia, in 1893,[1] who, I suppose, was a son or relative of the Thomas G. Morton who gave his name to the affection. Other writers included Dr. Auguste Pollosson[2] of Lyons, L. G. Guthrie,[3] and E. H. Bradford.[4]

In 1893 an article appeared by Dr. N. F. Graham, Professor of Surgery in the Medical Department of Howard University, Washington, entitled "Neuralgia of the Base of the Fourth Toe, and its Treatment,"[5] in which was first advocated a method of **treatment by excision of a portion of the branch of the external plantar nerve** supplying the adjacent sides of the fourth and fifth toes. He records four cases of this operation, in all of which the resection of the nerve proved so satisfactory that he says he shall continue to practise this mode of treatment in preference to any other. It has the advantage of being simple and easily performed. It leaves no deformity, and seems to be a rational mode of procedure. If, as seems to be established from the cases cited, the pain is due to the nerve, then this plan for its cure is reasonable and worthy of trial in these cases, which are by no means rare. The removal of the toe and part of its metatarsal bone, or a resection by Morton's method, leaves some degree of deformity, which is an objection, while removal of a portion of the nerve leaves a mere scar on the sole of the foot without any deformity or weakness whatever.

It is curious to me that writers on the subject of this affection during the last three or four years should have paid so little attention to **Dr. Graham's method of treatment.** I attribute much of this neglect to the unfortunate title of the paper, which has caused it to be indexed as "Neuralgia" and not, as it should be, as "Morton's Painful Foot" or "Metatarsalgia." It was only so recently as last summer that a paper was read on this

[1] *Ann. Surg.*, 1893, xvii. 680. [2] *Lancet*, 1889, i. 436. [3] *Ibid.*, 1892, i. 628.
[4] *Boston M. & S. J.*, 1891, cxxv. 52. [5] *Med. News*, 1893, lxii. 512.

subject by Mr. A. H. Tubby at the annual meeting of the British Medical Association in Carlisle, where he makes no reference whatever to the treatment by excision of nerve, but recommends palliative treatment of various kinds, and in severe cases excision of the metatarso-phalangeal joint.

I was myself a sufferer from this painful affection of the foot for five years, from 1889 to 1895, and I may be pardoned for alluding to my own case, which was almost exactly similar to the case of Dr. Morton's described above and to most of the cases met with by others. It was suddenly produced while playing at lawn tennis in a thin-soled canvas shoe. I felt a sudden tearing and cutting pain in the sole of the foot immediately under the fourth metatarso-phalangeal joint. The pain was so severe that I was unable to walk on the foot for several days, and even after that I could only walk with much pain. I did not realise the true condition of affairs, but thought that I had ruptured the transverse metatarsal ligament, and finding that the pain and inability to walk continued, I put my foot in a plaster-of-Paris splint and kept it at rest for a month; but on taking off the splint at the end of that time the pain on walking was as bad as ever. I consulted many of my surgical friends, and eventually I read Dr. Morton's paper, which at once shewed me the true condition of affairs. I was reluctant to have amputation of the toe or excision of the joint performed; but was making up my mind to the latter course when Dr. Graham's paper attracted my attention, and I at once decided to have the nerve excised. I persuaded my lamented friend, the late Mr. J. Greig Smith, to perform this operation for me, which he did most skilfully in 1894, having first practised the operation in the dead-house on three or four occasions with my assistance. The result of the operation was a perfect and complete cure, and I have no hesitation in recommending this operation in preference to all others.

Palliative treatment in severe cases is useless. I found the greatest relief to be obtained from blocking up the sole of the boot with a piece of leather just behind the tender spot, so as to take the weight off the painful part. All the other devices mentioned by Mr. Tubby were perfectly useless in my case, and there was a complete absence of the corn on the sole of the foot of which he speaks and of which no mention is made by Morton or other writers. Indeed, I cannot help thinking that Mr. Tubby has not met with a true case of Morton's Painful Foot, but has confused a case of painful corn on the sole of the foot with Morton's disease.

W. H. HARSANT.

DERMATOLOGY.

Ordinary baldness, according to recent researches at the Hôpital St. Louis, by Dr. Sabouraud,[1] is a perfectly well characterised disease **due to specific micro-organism.** If his

[1] *Ann. de l'Inst. Pasteur*, 1897, xi. 134.

statements are found to be correct, the treatment of early baldness, or better still its prevention, should be a very satisfactory proceeding. He says that seborrhœa and alopecia areata are "essentially identical." The patch of alopecia areata is only an attack of acute circinated seborrhœa, and inversely the bald only become bald by a diffused process of chronic alopecia areata. "I understand well," he remarks, "how much this opinion will appear anarchic and monstrous to dermatologists, and, I believe, will be received by them with incredulity; but so did the statement that a boil and osteomyelitis are caused by the same organism meet with incredulity. The statement of every new fact is thus met."

There have been great differences of opinion as to whether alopecia areata, or what is known in France by the name of "pelade," is a contagious disease, and due to the growth of a vegetable parasite in the affected skin, or not. It has been noticed to spread in schools, and to be apparently conveyed to adults through contact with the lower animals; but in spite of this the neurotic theory to a large extent has held its ground. Dr. James Galloway says[1] that among British dermatologists Mr. Jonathan Hutchinson has proved that alopecia areata is a parasitic disease, and occurs among those who have previously suffered from tinea tonsurans, and that in 1891 Dr. Crocker[2] believed that one of the classes into which he divided the disease was due to the parasitism of a vegetable organism. At the February meeting of the Dermatological Society of London[3] Dr. Crocker brought forward an interesting case in support of his views. The patient, a young man, suffered from typical alopecia areata, and was one of ten patients who had developed the disease under the same conditions. At the same time Dr. Colcott Fox said that he had met with a similar epidemic of ten cases. Fifteen years ago Dr. Thin[4] stated that in the roots of hairs extracted from the margins of patches of alopecia areata, and between the root sheaths and the hair shafts, he had found bodies coinciding in appearance with bacteria, and he believed that alopecia areata was caused by the development in the hairs of a minute organism or bacterium. The objects described by Dr. Thin as organisms do not seem to have been situated exactly in the same position as the micro-bacillus so carefully studied by Sabouraud. He considered that the bacterium described by him as "decalvans" penetrated downwards between the internal root-sheath and the shaft towards the root of the hair. It then penetrated the hair-substance, and as it multiplied it proceeded upwards in the substance of the hair. Dr. Thin does not appear to have made any sections of the scalp, and did not succeed in staining the organisms, which renders an accurate comparison with such complete researches as Sabouraud's very difficult. Apart from the observations I

[1] *Practitioner*, 1897, lviii. 519. [2] *Lancet*, 1891, i. 478, 533.
[3] *Brit. J. Dermat.*, 1897, ix. 105. [4] *Brit. M. J.*, 1882, ii. 783, 828.

have mentioned there has been abundant clinical evidence that alopecia was a contagious disease. It is said that epidemics of the disease are by no means uncommon, especially in France. Alopecia areata has been noticed by Sabouraud to always start from a central point, and the baldness spreads from this centre by creeping in every direction along its circumference. He also saw that the most pathologically active zone of the patch was situated at the circumference, and that it is in this circumferential zone that the infected and broken hairs are found in the form of clubs. According to Sabouraud's histological facts the micro-organism resides in the active peripheral zone, and more exactly in the dilated orifices of the hair follicles. This micro-organism, which he constantly found, is a small bacillus infesting the upper part of the hair-sac. He also noticed that the orifices of the follicles were filled with a fatty substance which could be squeezed out on pressure, and which he called the "seborrhœic cocoon." In this seborrhœic cocoon could be found, surrounded by a crowd of other microbes, the same organism which he demonstrated in the histological sections. He then set about isolating this bacillus, and cultivating it, and trying to prove that it is the actual cause of alopecia areata. It was necessary to discover a medium which should have the power of destroying all micro-organisms except the one in question. This preparation consists of a very acid culture medium. The ingredients are the following:

Peptone... ...	20 grammes	Water ...	1000 grammes.
Glycerine ...	20 ,,	Gelose ...	13 ,,
Acetic acid ...	5 drops		

With this medium one obtains in many of the tubes, in the midst of other colonies, one or two pure cultures from the beginning, which are visible on the third to the fourth day, the temperature being 35° C. This is the most favourable temperature, but it grows at 39° C., a temperature quite incompatible with the trichophyta. They show as pointed mounds, the colour of which is pale at first, but they gradually acquire a very characteristic brick-red. This brick-red tint of the microbe is most distinct. It is a superficial growth, and takes no firm hold of the underlying soil. A series of researches was then undertaken which resulted eventually in the demonstration of the microbial nature of baldness. A preliminary study of seborrhœa in the hairy scalp revealed: (1) that the bacillus of the brick-red cultures from alopecia areata is also present in the seborrhœic plugs of the mouths of the hair and sebaceous follicles in seborrhœa, that it is there present in considerable quantity, and that it is certainly the cause of seborrhœa; (2) that consequently seborrhœa and alopecia areata have a common origin from the same micro-organism. Finally, having studied the obvious relations existing between seborrhœa and the habitual falling out of hair, Sabouraud came to the conclusion that the disseminated loss of hair in seborrhœa

was the prelude of baldness. It will be interesting to see what Dr. Unna says to all this, as his pathology of seborrhœa and Sabouraud's are certainly at variance. The histology of bald scalps shows that the mechanism of the process leading to baldness is as follows: Whenever the specific bacillus of seborrhœa invades a follicle, it produces around it, and especially at its base around the hair-papilla, an afflux of wandering cells. The papilla gradually atrophies, producing as it does so a hair which is progressively more and more frail and devoid of pigment. Finally, although very slowly, it dies, and the dead hair is expelled. But before the death of the hair-papilla it makes several attempts at regeneration. In this seborrhœic infection of the hairy scalp the colonies of bacilli are enormously abundant; the sebum which is effused on the surface of the skin in the form of an apparently homogeneous crust, is composed of an infinite number of seborrhœic plugs turned out of the follicles, and each of these plugs contains the bacillus in millions. In hairy scalps which have been once invaded, the microbial infection remains endemic and settled, so that a hair once shed is never renewed. Furthermore, the permanent effusion of this germ-bearing sebum infects one by one the follicles which have remained sterile. In this way ordinary baldness is little by little established; the progressive sclerosis of all the elements of the hair follicle brings with it considerable changes of form. The whole part of the follicle invaded by the bacterial colony becomes hollow and broken up by narrow diaphragms, which render the seat of infection inaccessible to external antisepsis. The follicles may ultimately be converted into fibrous cords. But the incredible abundance and absolute purity of the infection persist, even when the baldness is finally and definitely established. Even at this terminal stage of its evolution, ordinary baldness remains the most abundantly and most purely microbic malady known in the skin. Such are the conclusions to which clinical and histological results lead the author; but a further difficulty has to be cleared up. It is that at the moment of infection the bacterial colony does not invade the hair-papilla, but remains in the upper third of the follicle. By what mechanism can the colony exert its influence upon the papilla? One can only admit an action at a distance, and this remains to be proved. Sabouraud, thinking then that this distant action was effected by the toxins of the micro-organism, devised and carried out the following experiment, which is conclusive and practically seals this chapter on the microbial nature of baldness. He made a cultivation on a liquid medium, and having filtered it through porcelain, inoculated the filtrate deeply under the skin and into the muscular tissues of a rabbit. The rabbit at once commenced to shed its fur, and within forty days from the date of inoculation general alopecia was established. This experiment is of the greatest value as shewing that the toxin of the bacillus of seborrhœic plugs is so

specific and individual that when inoculated into the heart of the system it retains its elective and exclusive action on the papilla of the cutaneous hairs. As this bears a most important relation to the treatment of tinea tonsurans, I must add that after four years devoted to the mycological and therapeutical study of this intractable and often incurable disease, Sabouraud came to the conclusion that no antiseptic treatment is absolutely efficacious in the case of tinea fungus which has invaded the hair as far as the root. This is due to the inaccessibility of the root to antiseptics, owing to the narrowness and depth of the hair follicle, which prevent the diffusion of all the therapeutic agents which have been employed. He has, furthermore, become convinced that if, as appears in favus, one could make a complete series of epilations without breaking the hairs, tinea tonsurans could be rapidly cured. But the diseased hairs break off close to the surface, and so it is necessary to take care to enucleate them by working somehow from below, by the root or even the follicle, killing the latter "temporarily." Following out this line of argument and applying it to alopecia areata, Sabouraud inferred that if the loss of hair in this disease is due to microbial intoxication, the toxins of the micro-organisms would be capable of inducing alopecia. It would then be possible to use them to produce a temporarily bald area at any desired spot, and so to cause a spontaneous falling-out of the tinea-infected hairs, which are too fragile to be removed by epilation.[1] So that the treatment of tinea tonsurans is likely to be revolutionised. One little difficulty I must mention here. It is, that the specimen of bacilli cultivated from "pelade" reproduces bald patches, like alopecia areata, in the sheep, guinea pig, and rabbit; the other specimen, derived from oily seborrhœa, fails to cause in these animals the slightest sign of seborrhœic alopecia. For the treatment of ordinary baldness, Sabouraud suggests that three times a week, in the evening, there should be applied to the affected skin a pomade containing sulphur, oil of cade, and yellow oxide of mercury. On the following morning the skin is to be thoroughly washed with soap, and subsequently a solution containing equal parts of alcohol and ether, in which resorcin has been dissolved to the extent of two per cent., should be applied by means of a brush.[2] It will have been noticed that Sabouraud's culture-medium was a very acid one, and on that account I sometimes order for cases of seborrhœa an alkaline preparation, which seems to answer very well, of which the ingredients are the following:

Thymol, ʒj.	Glycer., ʒiv.
Liq. Potassæ, ʒj.	Aq. Sambuc., ad ʒviij.

Long ago Unna called attention to the efficacy of resorcin

[1] For this summary of Dr. Sabouraud's work I am largely indebted to a paper by Dr. L. Wickham (*Brit. M. J.*, 1897, i. 1028) and to a report by Dr. Leslie Roberts (*Brit. J. Dermat.*, 1897, ix. 219).

[2] *Practitioner*, 1897, lviii. 523.

in cases of **seborrhœa**; it can be used as a watery solution up to twenty per cent. The following, as suggested by Dr. Crocker, will be found useful and agreeable:

Ac. Acetic, ʒss.	Eau de Cologne, ʒij.
Resorcin, ʒj.	Aq. Ros., ad ʒviij.

Add a little glycerine if the hair is very dry. Rub well in, crown and temple especially, once daily for six to eight weeks. Or I sometimes use chinosol, 1 in 200 of water; or if a pomade is preferred, chinosol 2 parts, distilled water 2 parts, vaseline 26 parts. A remedy suggested by Dr. J. F. Payne[1] is glycerine of tannic acid. He says it has an undoubted effect on the scurf of the head. Its exact mode of action, he says, is not easy to explain. But he believes the only thing which permanently succeeds in stopping this kind of affection is, broadly speaking, absolute disinfection or sterilisation of the scalp. It is a fact, Dr. Payne says, familiar to surgeons, that wounds of, or operations on, the scalp have always been regarded as more dangerous, more liable to give rise to unhealthy suppuration and pyæmia, than those of other parts of the body, the reason being that this part of the surface is swarming with micrococci of the kind which produce suppuration. Payne would treat the scalp thoroughly for three days with perchloride of mercury solution, 1 in 1000, or, if the skin is a delicate one, 1 in 2000. But this treatment is not enough. Although the condition appears to be improved, it is apt to return, and irritation is often produced by the antiseptic. Something seems to be required to improve the nutrition of the scalp as well as to destroy superficially the germs that may be there. The next remedy to apply is one undoubtedly useful in all sebaceous affections, namely, sulphur, which has a most definite effect. Considering that we also want an antiseptic, the following is useful: Sulph. precip. gr. xv., ac. carbol. ɱxv., vaseline (or some excipient) ʒj.; to which may be added two or three drops of oil of lavender, or oil of bergamot, or any other scent. Coal tar solution or creasote may be substituted, if preferred, for the carbolic acid. When this has been used for a week or two the effect on the scalp is extraordinary. The scurf disappears almost entirely, and the condition of the hair is improved. Or I sometimes order a more elegant preparation of sulphur; namely, Behrendorf's "pomade soufrée" (May, Roberts & Co.) which Ferris & Co. procure in collapsible tubes. Dr. Thin rubs in ung. sulphuris or lin. terebinthinæ to the edge of a patch of alopecia, he says with great success. The same applications may be used for seborrhœa. Dr. Payne says that washing and pure antiseptic treatment should be repeated from time to time, say once a week. At the same time, brushes, combs, hat linings, &c., should also receive antiseptic treatment, or be destroyed. After a course of treatment such as this, Payne thinks, it will generally be desirable to restore to the hair some

[1] *Clin. J.*, 1894, iii. 105, 121.

of the oily matter which it has lost. It may be done by rubbing in oil, or, still better, a soft pomade made with beef-marrow (which must be clarified). But most patients, especially ladies, object to any kind of greasy application to the hair. In many of these conditions of the hair and skin there is bad nutrition generally. The skin may look rather coarse and badly nourished. In all such conditions, independent of anything which can be called disease, Payne considers that arsenic internally is very useful. It improves the complexion even of people suffering from no obvious disease; and it improves the nutrition of the skin in cachectic or anæmic conditions.

HENRY WALDO.

Reviews of Books.

The Student's Medical Dictionary. By GEORGE M. GOULD, M.D. Pp. xii., 17—701. Tenth Edition. London: H. K. Lewis. 1896.

After making allowance for some of the eccentricities of spelling and pronunciation in which the people of the States indulge, we can confidently recommend this well-known and most deservedly useful book. Though, as the author tells us, it is practically a new book, the contents have not suffered, and it will be found to be almost as useful as the larger dictionary by the same author. We are inclined to think that the definitions of the prefixes and suffixes used in chemistry might be a little fuller. For instance, -ate signifies rather more than "any salt formed by an acid acting on a base," and the suffix -ite is not mentioned. Gypsum is not $CuSO_4$. We should have been glad if Dr. Gould had given us a table of Eponymic Structures as well as the very interesting table of "Eponymic Signs and Symptoms," in which, however, we should prefer to see the possessive case of the proper name used only in those instances in which the sign or symptom is indicated, and the nominative employed when a particular part of the body is mentioned. Thus we do not think Dr. Gould is correct in speaking of "Hutchinson's teeth," but we should be with him in writing "Argyll Robertson pupil," and "Romberg's symptom." In Dr. Gould's table "Erb's palsy" finds no place, although it appears in the body of the work. "Nephropexy" is not to be found, although Dr. Gould gives "hysteropexy." We are glad to notice that in this work 1 minim is given as the equivalent of ·061 cubic centimetre instead of the incorrect ·016 in the author's larger dictionary. The blemishes to which we have called attention are, however, comparatively unimportant, and taken altogether the work is really a very complete and valuable one.

An American Text-Book of Physiology. Edited by WILLIAM H. HOWELL, M.D. Pp. 1052. Philadelphia: W. B. Saunders. London: The Rebman Publishing Company, Ltd. 1896.

Although the science of physiology has of late years grown so rapidly that a comprehensive text-book has become more and more difficult to produce, yet no work has been issued in England which is the outcome of the collaboration of several authors. It has been felt, probably, that in a subject the different branches of which are so closely connected, anything like diversity of style and treatment should be avoided. And it is no doubt better for many reasons that one mind should combine and reduce to order and significance the numberless physiological facts which have slowly accumulated. But it is hardly possible for a single individual to do this thoroughly. If the book is to be anything like a complete embodiment of modern knowledge, the author must either be content to write a somewhat condensed manual or bring out the work in successive volumes with the risk that vol. i. will be out of date by the time vol. iii. appears.

This American text-book is the joint work of ten teachers of physiology, all of them well known as professors in universities and medical schools. Purely anatomical and histological details are, for the most part, omitted, and attention is chiefly paid to the elementary facts of the science, and as a result we have a carefully compiled text-book of modern physiological knowledge. Here and there, as might be expected, special importance is given to some subject which an ordinary student or practitioner might deem unnecessary. This is the case, for instance, with parts of the very able chapter on the central nervous system. But we can hardly grumble at this when the matter given is so interesting.

The introduction, which is an essay on the meaning of physiology and an account of some of the vexed questions, such as "vitality," which are connected with it, is very well written; and we are glad to see that Professor Howell removes a stumbling block at the very outset. Protoplasm, he says, "must not be misunderstood to mean a substance of a definite chemical nature or of an invariable morphological structure; it is applied to any part of a cell which shows the properties of life, and is therefore only a convenient abbreviation for the phrase 'mass of living matter.'" In fact, throughout the entire volume great pains are taken to simplify matters as much as possible.

The chapter on Reproduction is up-to-date, and contains a good *résumé* of the modern views of heredity. But like most accounts in physiology books, it is hardly full enough to teach the uninitiated this complicated subject. This remark may also be applied to the chapters on the special senses; but the book had to be kept within certain limits, and it would be only too easy to make such a work of undue length.

The diagrams are numerous and valuable; and we would especially praise the excellent schemata and plans for elucidating the arrangement of the nervous system.

The style is generally good, and the editor is to be congratulated on the arrangement of the chapters and on the general organisation and appearance of the work.

The Microtomist's Vade-Mecum. By ARTHUR BOLLES LEE. Fourth Edition. Pp. xii., 536. London: J. & A. Churchill. 1896.

The fourth edition of this well-known book has been revised throughout, and very many interesting additions have been made. The author has sifted all the new methods suggested during the last three years, and gives us a critical estimate of their value and capabilities. For instance, there is a long account of Weigert's copper hæmatoxylin stain for the central nervous system, and of the many modifications proposed, in which each method is so clearly described that there cannot be the least difficulty in employing it. Again, a little later on, we find the most complete account in the English language of Golgi's silver stains. And we would especially call attention to the explanation of the ripening of logwood stains and of the methods by which such ripening may be obtained in a few seconds of time.

This book has so long occupied the unique position of being the best treatise on the *technique* of microscopic anatomy, that it is superfluous to praise it or to recommend it to workers in that department of science. It is essential both to our practical and theoretical knowledge of the subject.

The Practice of Medicine. By HORATIO C. WOOD, M.D., and REGINALD H. FITZ, M.D. Pp. x., 1088. Philadelphia: J. B. Lippincott Company. 1897.

The aim of this work is to view the practice of medicine simultaneously from the pathologic and therapeutic points of view. All the therapeutic portions of the book have been written by Dr. Wood; the more especially pathological parts are from the pen of Dr. Fitz. These two professors, the one of Therapeutics at Pennsylvania, the other formerly of Pathology at Harvard, have produced a joint volume, which may be well epitomised by the motto on the title page, "Droit et Avant."

Nothing is more difficult than to give an adequate account of a text-book on medicine: one can only mention such points as fall under one's notice in a general survey, and these points are more likely to be errors of omission than inaccuracies of a positive kind. There is one such in the description of scarlet fever, where we read that "in order to allay the burning and

itching of the skin, cosmoline, cacao butter, cold cream, lard freed from salt by washing, olive oil, or other bland fat should be freely applied to the surface of the body morning and evening, after the first or second day of the eruption." Surely this is an altogether inadequate description of the practice of inunction in scarlet fever, which has a more important purpose to serve than the mere sedative action on the skin: the authors add no antiseptics and make no attempt to prevent the dissemination of active germs beyond the mere mechanical operation of preventing dried scales from flying about. We have for years been under the impression that antiseptic inunction was our principal safeguard in limitation of the disease, and that with care we need never have a second case, as no contagious disease seems to be more under control than this one, inasmuch as there is usually time to isolate and disinfect before the time when dissemination is likely to occur. The authors give more attention to the disinfection of the sick room, but they disregard the patient himself, whereas we hold that if the patient is well disinfected by inunction and bathing, there will be less need for some of the details of disinfection of the patient's surroundings.

Under typhoid fever we fail to find any mention of Widal's bacteriological test, which is becoming so much more useful than the test of Elsner; the diazo-reaction of Ehrlich is described as "of limited value in the recognition of typhoid fever." We have become accustomed to think that the diagnosis of the disease is not complete without the evidence of these two tests, and that if they give a negative result the case is likely to be one of meningitis or tuberculosis. We cannot accept without criticism the statement that "alcohol in some form . . . should be used in every case of typhoid fever from the beginning," for we prefer to wait until there is some indication for stimulation.

We regret to find that the authors are not able to give a better outlook in the treatment of tuberculosis. We cordially agree in their first point, that "the first indication for treatment is removal of the infected part, when possible." But we do not quite accept their next point, that "no known dose of any germicide which can be borne by the human system has any distinct power in even inhibiting the growth of the tubercle bacillus when once lodged in the body," and further, "it is possible that in the future a tubercular antitoxin may be produced, but, as tuberculosis is not a self-limited disease which produces an immunity, the prospects for success with its antitoxin do not seem brilliant." When the curability of phthisis has been so abundantly demonstrated, often by a spontaneously complete cure, the disease in other cases often becoming latent and quiescent, and from the *post-mortem* evidence in deaths from other causes as well as the clinical evidence during life, we may well question the dictum that the bacillus when once lodged in the body is positively indestructible, and we may further ask is it not likely that some form of drug

treatment may accomplish results which are often obtained spontaneously? Creasote may not be an unfailing specific, it may not be a direct germicide, but no matter what its mode of action may be we have no doubt about its clinical value, and we think that it rightly holds its place and gains in favour.

As regards the specific action of the new tuberculin, it has been pointed out by Koch that immunity has commonly failed, because the bacilli are not absorbed and there is no real interaction between them and the tissues, but with the new fluid, in the making of which the dried cultures of the tubercle bacilli have been broken up mechanically by pounding in an agate mortar, it has been found that guinea pigs may be rendered immune in three weeks, virulent cultures no longer affecting them, and that a cure of tuberculosis in them may be obtained if the injections are begun within one or two weeks of infection. With these facts before us it would be unwise to speak or write despondently about the possible development of a valuable and useful antitoxin, even if it do not prove itself capable of accomplishing the impossible.

One other subject is worthy of passing notice. The infectious varieties of pharyngitis are mentioned, and the follicular form of tonsillitis is alluded to, but there is no general description of one of the most common diseases, and one which is exceedingly difficult to differentiate from diphtheria, the acute follicular streptococcus tonsillitis, which often appears to be contagious, and so often simulates diphtheria as to be incapable of differentiation without the bacteriological test. There are many interesting and perplexing points about this disease in which the young practitioner requires guidance, otherwise he adopts the simple and convenient method of calling them all diphtheria and of then publishing some astoundingly favourable results of the action of his favourite remedy.

On the whole this text book is a trustworthy guide, but we should have omitted the three pages of formulæ, most of which might be easily devised and improved.

A System of Medicine. By Many Writers. Edited by THOMAS CLIFFORD ALLBUTT, M.D., F.R.S. Vol. II. Pp. xiv., 1176. London: Macmillan and Co., Limited. 1897.

The topics considered in this volume are the various infective diseases not previously described, and the first article is by Dr. Sidney Martin on Tuberculosis, which is described as "a chronic febrile disease, produced by the bacillus tuberculosis." Everything is circled round the bacillus. When this does not enter the body no tuberculosis can be manifested, and other diseases "only dispose to the reception and implantation of the microorganism from the environment." There is no longer any hesitation in classing the malady amongst the infective diseases, and we no longer hear any doubts as to the existence of a con-

tagion, or as to the contagiousness of the disease. "Tuberculosis is an infection; it is due, that is, to a virus which is introduced into the body; it cannot arise *de novo* in the body," hence it follows that the demonstration of the bacillus is the first important question: its characters, its mode of growth, its cultivation, its chemical products, its pathological effects, the modes of infection in animals and man, the sources of infection, and the spread of the disease in the body after infection,—these are the principal topics dealt with. It is clearly laid down that the bacillus is a parasite, and not a saprophyte; that it has no independent existence outside the body, that it exists only in tuberculous lesions and their products, and hence in the human being tuberculous infection is not of universal distribution, but is limited to places inhabited by consumptives, and in cattle it is a disease of the stall. The sources of infection are all under control. Precautionary measures are available against its invasion and its spread, and hence the arguments in favour of notification summed up by Dr. Niven (*Medical Chronicle*, April, 1897,) are in all respects stronger than those used on behalf of the notification of any infectious disease, "both as regards our knowledge, even at the present, of the modes of infection, and as regards the good which we may hope to effect." The article concludes with the remark that "there is no specific treatment for tuberculosis." There are, however, indications of light on the horizon, and we trust that the second edition of this book will give us a more hopeful outlook for the victims of this widely-spread infection. Dr. Phineas Abraham has also to confess that no specific drug has yet been discovered for leprosy; but as regards the other chronic infective disease, actinomycosis, Dr. Theodore Dyke Acland remarks that "the organism, fortunately, has a low vitality, and is readily affected by iodoform, corrosive sublimate, and other antiseptics." May we not expect that leprosy and tuberculosis may be even more effectually influenced by some antitoxin or antiseptic than appears yet to be within our reach?

The chapter on the diseases of uncertain bacteriology which are not endemic are written by Dr. Dawson Williams, Dr. Caiger, Dr. John MacCombie, Dr. Eustace Smith, and Mr. Jonathan Hutchinson. Those on the topical or endemic diseases are by well-known authorities on the different subjects.

The diseases due to protozoa are described by Dr. William Osler, Dr. S. Monckton Copeman, and Dr. Henri A. Lafleur, whose monograph on Amœbic Dysentery gives us everything known on this disease.

The following chapters on Intoxications include a variety of subjects by various authors: poisoning by food (ptomaine poisoning), by Dr. Sidney Martin; grain poisoning, mushroom poisoning, opium poisoning and other intoxications, by Dr. Clifford Allbutt; snake poison and snake-bite, by Mr. Charles James Martin and Dr. Calmette; alcoholism, by Dr. Rolleston;

and metallic and some other forms of poisoning, including poisonous trades, by Dr. Thomas Oliver. These somewhat obscure and indefinite subjects are dealt with in a very complete and instructive manner, and will well repay a careful perusal.

A chapter on Psorospermosis, and the usual internal parasites, completes the volume. We notice that chloroform is not mentioned amongst the useful anthelmintics, whereas we have found it to be one of the most efficient of them all.

Lectures on Renal & Urinary Diseases. By ROBERT SAUNDBY, M.D. Second Edition. Pp. xii., 434. Bristol: John Wright & Co. 1896.

These lectures, first issued as two separate works, are now revised and published in a single volume with additions, including a special section on stone in the kidney, hydronephrosis, pyelitis, and hæmoglobinuria.

Dr. Saundby's views are so clear, and his theories so well expressed, that we heartily welcome the reappearance of the lectures in this handy form. In spite of the brief, terse style, the number of small but important details given on every page show that the author is a master of his subject and of the art of description. Still, on some subjects we should have liked a fuller expression of his views. This is the case particularly in the new paragraphs on calculus and hæmoglobinuria, where he hardly does himself and his readers justice. The importance of the diagnosis of kidney affections, other than Bright's disease, is so great that every help such as the situation and character of pain and of the tenderness, the microscopic and other aids, must be considered. Thus the diagnosis of tuberculosis is hardly mentioned, though he elsewhere refers to the pseudo-bacillus which is so misleading in some instances. Recent investigations seem to prove that this is the smegma bacillus, and curiously enough it gives all the reactions of Koch's bacillus to ordinary stains, but can be decolourised by ten minutes immersion in alcohol. In this way alone can distinction be made between what is a harmless parasite and the chief agent in tubercular disease. The progress of modern surgery has increased the importance of an early recognition of this affection, which is often confined to the kidney alone. Indeed the surgeon is now offering his aid in the treatment of acute and subacute Bright's disease, where Mr. Reginald Harrison claims that an incision for the relief of inflammatory tension may sometimes put an end to suppression of urine and prevent the degenerative changes which too often follow the acute stage.

The chapter on urinary testing is a very valuable one, the more so that it is not too prolix, though in the tests that are given the greatest care has been taken to call attention to many

neglected precautions. The author finds that the ferrocyanide test is vitiated by its throwing down albumose,[1] and denies, we think wrongly, the greater delicacy of the picric acid test for albumen, which has been regarded as one of its chief merits. Though errors have often been made from the cloud of mucin it precipitates, many observers believe that a smaller amount of albumen can be detected by it than by nitric acid. The bare statement that the excretion of uric acid is diminished by salicylate of soda is true, but misleading, for it is well known that Haig and others use it to obtain a greatly increased output in the form of a soluble salicylurate. This amounts to more than twelve times the normal according to Haig, while Bohland showed that this excretion is accompanied by a remarkable leucocytosis, indicating, as he thinks, an increased formation. A fuller account of Ehrlich's diazo-reaction would seem desirable if mentioned at all.

Piperazine has been tried and found wanting by Dr. Saundby, but we find no reference to the formalin compound, urotropine, which appears to be a powerful antiseptic for the urinary tract, as well as a diuretic and uric acid solvent. Putrid or ammoniacal urine is, it is said, rapidly rendered healthy by it.

By "dilution of the blood," cursorily mentioned in the treatment of uræmic coma, may be meant either simple injection of saline fluid, or the combined injection and bleeding which has been so much advocated of late.

We are glad to see that the view is taken that uræmia is a group of affections produced by different toxic agents, many of which are absorbed from the intestines, while evidence is given against the theory of cerebral œdema. We may add that Leonard Hill's investigations on the cerebral circulation seem also to negative that of spasm of the vessels, for he finds no proof of any vaso-motor mechanism in the brain at all. Thus, it has been remarked, we are brought to the view of a direct action of the toxins on the cortex as causing the convulsions and other phenomena.

The discussion of cardio-vascular changes is even more interesting. The conclusions are that cardiac hypertrophy is met with in all forms of Bright's disease, including acute nephritis, but is most common in the contracting kidney. It is due to (*a*) stimulation of the heart to increased activity by the presence of non-eliminated poisonous matter in the blood, and (*b*) increased capillary resistance. The latter may be ascribed to alterations in the density of the blood plasma. The high tension pulse is due to the greater energy of the heart and greater capillary resistance combined.

The importance of tube-casts for diagnosis and prognosis is still maintained by Dr. Saundby, in spite of their occasional appearance in health and in other diseases, and with respect to

[1] Elliott maintains that this can be avoided if a little acetic acid be only added after the urine is mixed with the ferrocyanide.

the formation of hyaline casts his present conclusion is that they may arise either by metamorphosis of epithelial ones, or by coagulation of transuded plasma, or by secretion from the epithelial cells. The broader ones which are derived from epithelial forms by metamorphosis are, like them, produced only where the inflammation is of a severe type. We do not discover any reference to the use of the centrifuge, which renders our examination for casts much more exact and certain.

There is much to be said for and against the classification of the various forms of Bright's disease which has been adopted, but probably our knowledge is not yet ripe for any perfect arrangement. The three types of infective, lithæmic, and obstructive nephritis represent three groups fairly distinct in character, though almost any clinical or anatomical symptom may be found indifferently in cases of either type. The cases included in the first two classes are produced by toxins, both various and partly unknown, and the distinction would seem to be that the lithæmic type is one where the disease attacks, first, the cardio-vascular system, causing increased diuresis, and later on the kidneys; while in the infective class the kidney is first affected by the poison. Still, it may be doubted whether there is a primarily diminished diuresis in all these cases except the lithæmic. The extremely brief chapter on obstructive disease may give the reader an impression that puerperal nephritis is due entirely to pressure, in spite of the highly toxic character of the urine and other evidence to the contrary.

The lectures devoted to Diabetes are the most delightful part of the book. The history, distribution, and causes of the disease are admirably arranged and ably discussed, so that we only come to the end with a wish for more. The recent work of Pavy and Minkowski is noticed; but in fact the true pathology is so uncertain, in spite of the great amount of recent work, that perhaps the most valuable section is that on gaps in our knowledge. On the whole Dr. Saundby takes the view that the balance of evidence is in favour of the theory that overproduction by the liver is the cause of diabetes, and that this is an excess of its normal vital function. He has quite given up the use of gluten bread, as it contains so much starch, and is both dear and unpalatable. In place of it, when a strict diet is necessary, he gives Callard's "brown loaf" and biscuit food, or others made with cocoa-nut or almond flour, to which a little gluten or aleuronat is added. The use of the cheap cocoa-nut meal deserves to be widely extended, though there is a slight difficulty in cooking it.

The microscopic drawings are perhaps hardly up to the average, but the printing and appearance of the book generally leave nothing to be desired, and every medical practitioner will find it a valuable work of reference.

The Operations of Surgery. By W. H. A. JACOBSON, M.Ch. Third Edition. Pp. xiv., 1337. London: J. & A. Churchill. 1897.

We are glad that Mr. Jacobson has resisted the temptation to expand this book into two volumes. Although it has been considerably enlarged, and although the number of illustrations has been doubled since the first edition, yet by the employment of a deeper page, and the occasional use of small print in describing cases and in the accounts of the less frequently employed operations, he has kept the book within the compass of a single volume. We do not know whether most to admire the exceeding clearness and lucidity of the descriptions of the various operations in this book, or the beauty of the illustrations by which they are accompanied; both together form a delightful volume which may well make the student of a former generation envious of one of the present day. We know no work on the subject of operative surgery at all equal to this one, and we can strongly recommend it to all students.

More than one-third of the whole volume is devoted to the subject of abdominal surgery; and it is here more than in any other part of the book that we notice the care taken by the author to keep abreast with recent work. No less than ten operations for the radical cure of hernia by the open method are given and fully described, and of these the author (we think rightly) prefers Macewen's, but here, as elsewhere in the book, he displays eminent fairness, and is always ready to point out the advantages claimed by introducers for their own operations.

Paul's tubes for artificial openings in the intestine are described and illustrated, as are also Murphy's buttons, Mayo Robson's bobbins, and Senn's decalcified bone plates. Greig Smith's operation for the radical cure of umbilical hernia is described with approval, and his drawings are reproduced from Walsham's *Surgery*. In operations for the removal of the tongue the methods of Whitehead, Syme, and Kocher are described, and also the method of removing by the écraseur. In Whitehead's operation Mr. Jacobson approves of a preliminary laryngotomy with plugging of the back of the mouth, although he acknowledges that the introducer of this method never makes use of these preliminaries. Kocher's method is not spoken of with much approval. In removal of the mammary gland for cancer Mr. Jacobson advocates removal of the whole organ and clearing out the axilla in every case, following the advice of Mr. Banks rather than that of Mr. Butlin, although he would not go so far as Professor Halsted, who would remove the whole thickness of the pectoralis major and divide the pectoralis minor. We think here, as in many other cases, Mr. Jacobson adopts an eminently judicious tone, and gives us sound advice, which may be safely followed by young surgeons who seek in this volume for a trustworthy guide.

The Pathology and Surgical Treatment of Tumors. By N. SENN, M.D. Pp. 709. Philadelphia: W. B. Saunders. 1895.

Professor Senn's book on tumours, which is a little late in reaching us, will be received with much interest and pleasure by the profession both in America and other countries. It is a voluminous treatise, the result of a collection of material extending over many years, and of much laborious work. The chapters on the pathology of tumours at the commencement of the book are very valuable, and thoroughly interesting. Unfortunately too much has been attempted in the preparation of this vast compendium. In dealing with the subject of diagnosis and treatment an attempt has been made to cover far too much ground. For instance, the writer has attempted to give, in connection with the treatment of malignant growths of the stomach and intestines, and of tumours of the uterus and ovaries, what would be much more in place in a large work on abdominal surgery. The information given about operative treatment is so insufficient as to be practically useless, but may unfortunately mislead some by allowing them to suppose that when they have read Senn's account they have obtained all the necessary information. The same incompleteness is conspicuous in the part devoted to the diagnosis of tumours of the breast, and in the account of excision of the breast for cancer no mention is made of the necessity of removing the portion of skin which lies over the scirrhous growth in whatever portion of the breast the growth may be situated. We are told that in scirrhus of the breast pain of a shooting and lancinating character is always present after the tumour has attained a certain size, and yet we know that more often pain is completely absent for many months after the accidental discovery of the growth. If the author intended to imply that pain was always present late in the disease he should have made his meaning quite clear, for the idea that early scirrhus is always painful would lead to frequent failure in the diagnosis of cancer in that stage when its treatment is the most hopeful. Moreover, the prognosis of cancer of the breast which is given by Dr. Senn is not that which the more thorough modern operation has made possible in the practice of several surgeons.

It would have been much better, we venture to think, if the writer had limited his subject to the pathology of tumours. We are glad to see he rejects the microbic origin of true tumours as not yet proved, and that he separates retention cysts from tumours proper. He adheres to Cohnheim's view of the embryonic origin of tumours, but we have looked in vain in this work for a statement of the evidence on which Cohnheim and the author found their belief. Dr. Senn considers that there may be what he calls "post-natal embryonic cells," or embryonic cells the offspring of mature cells which, for some reason, have failed to

undergo transformation into tissue of a higher type, and which may remain in a latent immature state for an indefinite period, to become, under the influence of either hereditary or acquired exciting causes, the essential starting point of a tumour. What he means by this is, that the new cells produced in repair may remain undeveloped into mature tissue and later on grow into a tumour. It seems to be rather from the absence of better proof of other origins that the author accepts Cohnheim's theory and endeavours to formulate another which he appends to Cohnheim's, than from the strength of any arguments in its favour. Dr. Senn reports (p. 86) a case of a patient who developed myeloid sarcoma at the seat of a fracture, he believes from callus, and argues that as there had been no pain before the fracture the growth must have been secondary. This view we fail to accept, for we have observed the almost painless growth of myeloid sarcoma. We consider that it was quite as likely—indeed more likely—that fracture resulted from the presence of the growth. The statement (on p. 21) that tumours never disappear except by removal or destruction, is a little too absolute in the light of some recent well authenticated cases. It would, we consider, have been more correct had the author stated that such an occurrence was of the greatest rarity, and that most cases in which swellings diagnosed as tumours disappeared were really infective or simple granulomata, and not tumours in the true sense of the word. The chapter on transformation of innocent into malignant tumours is an interesting one, but might have been enriched with more modern cases which are supposed to support the opinion that such transference does occur. The transformation of fibro-myoma of the uterus into sarcoma is accepted as a fact. We have been much disappointed in turning to the chapter on lymphatic growths not to find the difficult question as to the exact relationship between sarcoma and lymphadenoma more fully considered.

The work is one well worth careful study, and will be found useful for frequent reference. It is profusely illustrated. Many illustrations are evidently from micro-photographs, and hence some of them lack definition of structure. However, they possess perfect accuracy of representation, so far as it goes. Many pictures and much information have been taken from Bland Sutton's work on tumours, and acknowledged as so derived.

Deformities: A Treatise on Orthopædic Surgery. By A. H. Tubby, M.S. Pp. xxii., 598. London: Macmillan and Co., Ltd. 1896.

The National Orthopædic Hospital and the Evelina Hospital have supplied Mr. Tubby with most of the opportunities which rendered this volume possible, and while it is obviously drawn chiefly from the writer's own experience, it also bears evidence

of careful study of the work of others, particularly of Bradford and Lovett, in America; of Rédard, in France; of Hoffa, in Germany; and of Adams, Reeves, Walsham and Hughes, in this country.

The major portion of the book is naturally devoted to the subjects of deformities of the spine and the various forms of club-foot, and a careful perusal of what the author says on these important subjects has given us much profit and pleasure. In the treatment of spinal caries we are glad to notice that no fanciful or complicated apparatus is recommended. Plaster-of-Paris jackets are spoken of with approval, and judicious remarks are made as to their proper application; while special attention is devoted to some other forms of apparatus for this affection, such as poro-plastic jackets and Taylor's brace. The operation of laminectomy for compression paraplegia is only briefly described, but references are made to other authorities for fuller particulars. Scoliosis is very fully dealt with, but we are rather surprised that massage in this affection is apparently so lightly thought of as to be hardly mentioned. The author seems to rely almost entirely on gymnastic exercises with intervals of rest in the recumbent posture. In the treatment of congenital talipes the author favours the long-established London practice of free division of tendons. Thus, in the second degree of congenital club-foot he recommends the division of the plantar fascia, the tibialis anticus and posticus, the flexor longus digitorum, perhaps the extensor proprius pollicis, and certainly the tendo Achillis. Macewen showed long ago that all this tenotomy was unnecessary, and only had the effect of weakening the foot. The deformity is due, not to a mere contraction of the tendons, but to a malformation of all the structures of the foot, including the bones and ligaments, which latter are far more unyielding than the muscles and tendons, so that, with the single exception of the tendo Achillis, nothing is to be gained and everything to be ost by cutting tendons.

The chapters on knock-knee, torticollis, webbed fingers, and other allied subjects are excellent, and are fully illustrated from the author's clinical practice.

The book is written in a pleasant style, is very fully illustrated, and forms a most trustworthy guide to the subjects of which it treats.

De la Luxation congénitale du Fémur. Par le Dr. ÉDOUARD DELANGLADE. Pp. 332. Paris: G. Steinheil. 1896.

This is the best and most complete monograph on the subject of congenital dislocation of the hip that we have seen. The author has devoted a considerable amount of study to the literature of the subject, and has evidently had a very considerable experience in dealing with these cases, and he gives us here a valuable digest of his work, and very ably sums up the whole subject.

Dr. Delanglade shows beyond all doubt that the cause of the affection is an original malformation, and that it is not due, as was once supposed, to an injury at the time of birth. The cotyloid cavity is always found rudimentary and incapable of retaining the head of the femur in its cup. The muscles also are imperfectly developed, being not only less in volume and consistence to the naked eye, but containing histologically a diminution in their muscular fibrillæ. Obstacles to the reduction of these dislocations are of three varieties, osseous, ligamentous, and muscular, and the author enters fully into the best methods of overcoming all these difficulties. He enumerates the various operations which have been devised for the relief of these affections and divides them into orthopædic or bloodless operations, and cutting operations, giving the preference in most cases to the latter method, but pointing out that in young patients up to three years of age, and especially in unilateral cases, great success may be obtained by the orthopædic method, especially if the directions of Lorenz are closely followed. The book is enriched by particulars of 133 cases, taken from various sources, full particulars of the treatment carried out being given, and in many cases the results of *post-mortem* examinations are added. A very complete bibliography is given at the end of the book.

A Manual of Obstetrics. By W. A. Newman Dorland, M.D. Pp. 760. London: Henry Kimpton. 1896.

This is an interesting and useful work, since it embodies fairly completely the practice and teaching of the American school of obstetricians. It is well arranged and well illustrated, the various sections being placed in their physiological and corresponding pathological sequence, but the description of the development of the ovum might have been treated more fully in the light of the large amount of research work that has lately been done on this subject.

The descriptions of physiological pregnancy and labour are very full and clear; the pathological conditions which occur in connection with these are well described, and the treatment clearly indicated. Ectopic gestation is dealt with very fully and carefully. The author considers that Tait and others, who look upon all cases of ectopic gestation as primarily tubal, are mistaken, but at the same time acknowledges the extreme rarity of primary ovarian or abdominal extra-uterine pregnancy. He describes very fully the hemorrhages met with in parturition and the puerperium, but is at variance with the opinion of many British authorities on some points. For example, he recommends *accouchement forcée* in cases of accidental hemorrhage—a method of treatment which is by most English authorities considered a bad one, except under certain exceptional conditions. In dealing with eclampsia he recommends as the

most successful methods in various cases, chloroform narcosis, venesection, hot wet or dry packs, and the injection of veratrum viride, and omits all mention of the injection of morphia, a treatment which has been advocated in Europe for the last four or five years, and which has, in the hands of its introducers and others, proved most valuable. The method of treatment by veratrum viride injected subcutaneously appears to us to be verging on the heroic: the induction of such an amount of cardiac depression as to necessitate the administration of alcohol by the rectum or ether subcutaneously in large doses would scarcely seem desirable, the difficulty of limiting the downward limit of cardiac depression being no small one.

The description of the septic affections of childbed is very good, and treated in detail to an extent which the importance of the subject fully warrants. He classes under the head of sapræmia both those conditions which are usually differentiated as septicæmia and sapræmia, but at the same time lays down the proposition that the general septic poisoning in association with which pathogenic germs are found in the blood is almost invariably preceded by local decomposition and absorption of chemical products of microbic growth, and bases on this, which undoubtedly is true in the larger number of cases, a strong and convincing argument for the early and energetic treatment, and especially for the early recognition, of cases of puerperal sepsis. The name used is unimportant, provided correct principles of treatment based on pathological foundations are advanced, and the emphasis of his remarks on this condition alone would render the work a valuable one.

Very useful hints are given with regard to some of the minor but most annoying ailments which occur in connection with the pregnant woman and the infant, the treatment of which in the case of the newly qualified practitioner has usually to be evolved from his inner consciousness.

The Menopause and its Disorders. By A. D. Leith Napier, M.D. Pp. xv., 307. London: The Scientific Press, Limited. 1897.

If the author can demonstrate that there is a pathological condition at, or about the cessation of menstruation which influences the ordinary diseases to which women are liable or is itself a special disease, then we shall grant a reason for the production of this work, but we do not think that he can substantiate this position.

A great deal of space (75 pages) is taken up in considering theories of menstruation. These can be found in almost every work on Midwifery and Gynæcology, and might well be omitted from a work which from its title would lead one to expect that definite diseases were treated in a practical manner.

The chapter on the normal change of life is good, and it would have been well if the work had begun with it.

Under the heading of the disorders of the menopause the author correctly, in our opinion, puts down alcohol as the cause of a good many of the "nervous" symptoms complained of by patients. We believe that, independently of real disease, the abuse of alcohol produces more disturbance at the menopause than any error in diet.

The remainder of the work treats of conditions of ill-health which often exist at times other than at the menopause, and are dealt with fully in ordinary works on medicine. Also there is a good deal of space devoted to diseases which, although they often commence at the menopause, yet must not be considered incident to that time only.

Traitement des Suppurations pelviennes. De l'Hystérectomie abdominale totale. Traitement chirurgical des Rétro-déviations utérines. Du meilleur Mode de Fermeture de la Paroi abdominale. Par EUGÈNE DOYEN. Pp. 78. Paris: Institut international de Bibliographie scientifique. 1896.

M. Doyen is an original thinker, and must be regarded as one of the leaders in abdominal surgery. His methods, which differ in many details from those usually adopted, are here clearly set forth and supplemented by some useful illustrations. We have before had reason to speak well of the way in which these *brochures* are prepared, and the present collection of essays is quite equal to its predecessors.

Skiascopy and its Practical Application to the Study of Refraction. By EDWARD JACKSON, M.D. Second Edition. Pp. 108. Philadelphia: The Edwards & Docker Co. 1896.

The first edition of this book supplied a want much felt, since even the best text-books of ophthalmology give very scanty information on this subject. The various normal and abnormal phenomena of the shadow test are on the whole very clearly described and explained by Dr. Jackson. Every difficulty is dealt with, and every application of the test considered. With the second edition to refer to, no student of ophthalmology should have any great difficulty in thoroughly mastering the subject. We are glad to see that careful attention is directed to the information to be gained from observation of the fundus reflex at different distances, and also to the size and position of the source of light—important matters which are far too frequently neglected. Some of the paragraphs are not so intelligible as they might be; for instance, those on the "Position

of Observer for Greatest Accuracy." If the book has a fault, it is that it is laboriously minute in dealing with the possibilities of skiascopy, some of which have scarcely any practical value, and it seems hardly necessary to devote separate chapters to the use of the concave and plane mirror respectively. The diagrams, illustrations, and letterpress are excellent, and the substitution of graphic or geometric explanations for mathematical formulæ will meet with almost universal approval.

On Deafness, Giddiness, and Noises in the Head. By EDWARD WOAKES, M.D. Assisted by CLAUD WOAKES. Fourth Edition. Pp. xvi., 224. London: H. K. Lewis. 1896.

This book, the title of which looks as if it had been designed to catch the eyes of patients rather than medical men, consists of a series of articles on some of the symptoms met with in ear diseases, arranged on no definite plan, but all harping on the one theme, that affections of the ear are caused by a peculiar disease of the nose, which the author is pleased to call "necrosing ethmoiditis." For the treatment of this affection we are referred to part 2 of this work, which is apparently not yet published. The author's pathology is as poor as his physiology, and we have little better opinion of his treatment so far as he here makes us acquainted with it.

Practical Points in Nursing, for Nurses in Private Practice. By EMILY A. M. STONEY. Pp. 456. London: The Scientific Press, Limited. [N.D.]

Although this book bears an English imprint only, its authorship and publication are Transatlantic. As it is somewhat specialised in its aim, methods of improvising the usual nursing appliances are described and instructions given for the treatment of emergencies, and for the management of ordinary cases until the physician or surgeon arrives. But almost the whole of the book will prove equally useful to hospital and private nurses, and we can confidently recommend it to them as a good text-book on the theory and practice of nursing, and also as a handy book of reference. In addition to general and special nursing instructions, it contains a copious glossary, dose-list, various useful tables, and a section on elementary anatomy and physiology. This variety of contents, and the existence with it of a good index, are the features which lead us to pronounce the book handy for reference. The portions which deal more strictly with the art of nursing contain much sound advice.

appeal shall lie from the decision of the General Committee, and these presents may be pleaded in bar to any action brought by the doctor. So the wretched man is forced even outside the pale of the law! These committees publish annual reports to their subscribers, and endorsed on the back of a report, furnished from the dispensary connected with the Brisbane society, were these remarkable words: "For correcting female irregularities, steel and pennyroyal pills have long been recognised as a safe and efficient remedy. One shilling a box." Given as a piece of general information, this is convincing as a proof that in Australia the morals and the social institutions are equally advanced; further comment is needless. The remedy proposed by the author, for this disgraceful state of things, is singular; some will be inclined to consider it even worse than the disease. He introduces his proposals as follows: "I am well aware that any remedy depending on the unanimity of the profession would be impracticable." That is his opinion of the doctors of Australia, and no doubt he knows them better than we do. So he proposes that every man should start a club of his own, and "admit all classes of society, whether poor or rich, and charge (say) from 1 to 2½ per cent. on their annual income." It does not seem to strike him that people should be made to pay fairly for, and according to whatever services may have been rendered to them; and how he hopes by these means to check professional rivalry and jealousy does not appear. Altogether things in Australia seem to be pretty much as in England, only perhaps a trifle worse.

A Vest-pocket Medical Dictionary. By ALBERT H. BUCK, M.D. Pp. vi., 529. London: Baillière, Tindall and Cox. 1897.—As far as the size of the book will allow, this is a very serviceable volume, but in order to accommodate itself to the "vest-pocket," much which should be present of course has to be omitted in the definition and explanation of rare words, although it is a matter for admiration that so much has been got in. There should be a demand for this book, which is the best of these tiny dictionaries we have seen.

The Progress of Medical Chemistry, comprising its application to Physiology, Pathology, and the Practice of Medicine. By J. L. W. THUDICHUM, M.D. Pp. 212. London: Baillière, Tindall and Cox. 1896.—This book is a reprint of a series of papers dealing chiefly with urinary chemistry, and containing a *résumé* of the researches with which the author's name has long been associated. It is interesting as an expression of Dr. Thudichum's views upon many vexed questions, but it also renders very conspicuous the failure of ordinary chemical methods to deal satisfactorily with the complicated products of animal metabolism. The strictly technical matter is interspersed with suggestive, if somewhat pointed, criticism of the work of professors of animal chemistry generally; and the account of

The Medical Environment. By D. CAMPBELL BLACK, M.D. Pp. 50. Glasgow: Hugh Hopkins. [1896.]—Something of the radical nature of the two addresses here printed as a booklet may be gathered from the fact that the author maintains that hospitals as charitable institutions have now no *raison d'être*, since our poor-law system is, or ought to be, sufficient to meet all cases of destitute sickness. On the subject of hospital reform, which is now attracting so much attention, Prof. Black must be regarded as an able exponent of the views of the malcontents who form an ever increasing army, chiefly no doubt the result of the overcrowded state of the profession. Prof. Black is entirely opposed to conventional usage in medical ethics; but that does not seem quite sufficient reason why he should send out his little book looking so very like an advertisement of a quack doctor. Is it because he does not wish to appear better than the itinerant "professor" who so often announces his medical powers in an unpretentious pamphlet? Those who are interested in the subjects here treated should read these addresses, which, despite their impassioned style and the "animus" which pervades them, have in them much of logic and common sense, and are interesting in that they show what extreme views can be held with regard to these subjects by a man of Prof. Black's standing. Dr. Black, although he regrets the "unworthitess" (*sic*) of these pages, seems anxious that readers should procure some of his other pages; for at the beginning and end of these appear not only announcements of his many publications, but press notices of them, and even opinions extracted from private letters concerning them; and he considerately adds a list of his "miscellaneous contributions," which are too numerous to be all mentioned in the space available.

The Sweating of the Medical Profession by the Friendly Societies of Australasia, with a practical Scheme for its Abolition. By LUDWIG BRUCK. Pp. 60. Sydney: Office of the *Australasian Medical Directory and Handbook*. 1896.—It seems to be the fashion in Australia for everybody, indiscriminately, members of Government, ex-ministers of the Crown, pensioners, and land-owners having large incomes, to join friendly societies, with which the country seems to swarm. The Registrar of New South Wales remarks: "Some lodges are fortunate enough to have members so well-to-do that they do not take the ordinary sick pay when invalided, nor even the funeral donation payable on the death of a wife." Such members join only for the benefits of cheap medical attendance and medicine. The rules binding the unfortunate doctors of these societies are of the most tyrannical description. For instance, the Brisbane Associated Friendly Societies provide that in the event of the breach by the doctor of any of the articles hereof such breach shall be reported to the General Committee, who shall have full power, either with or without calling for an explanation from the doctor, to dismiss the doctor from the said service. No

the straits to which they have been driven to justify their existence is amusing, and perhaps not altogether devoid of foundation.

Cycling as a Cause of Heart Disease. By GEORGE HERSCHELL, M.D. London: Baillière, Tindall and Cox. 1896.—This pamphlet, of 44 pages, gives a wholesome warning against the abuse of the favourite and fashionable pastime of cycling by those who have any cardiac weakness or tendency thereto. There is undoubtedly some danger at present that the craze of the hour may develop into the injury of a lifetime; but the author is himself a cyclist, and as he recognises the utility of the cycle when used in moderation, he does not therefore take an unreasonable view of the situation, and he has no tendency to exaggerate the possible dangers from overstrain of a weak or an already damaged heart. This well-timed injunction against the effects of immoderate cycling is summed up in two chapters,—the one on the dangers incurred by the novice or untrained individual, and the other on the effect of prolonged cycling upon the trained man; and he argues that, when "carried out in such a manner as to keep up a material acceleration of the heart's action or increased blood-pressure for any length of time, it must of necessity sooner or later produce disease of the circulatory apparatus. And this will almost certainly be the case if the rider is *not* a young and healthy adult, but an individual over middle age whose tissues are commencing to undergo degenerative changes."

Elementary Bandaging and Surgical Dressing. By WALTER PYE. Revised and in part re-written by G. BELLINGHAM SMITH. Seventh Edition. Pp. viii., 218. Bristol: John Wright & Co. 1896.—This handy volume contains a good deal of useful information packed in small space. It will be much appreciated by those students and nurses who use it as a guide in the earlier months of their professional training. It describes the ordinary methods of applying bandages, splints, and dressings; and in addition has chapters upon the treatment of cases of shock and collapse, of immersion, and of poisoning.

The Treatment of Wounds, Ulcers, and Abscesses. By W. WATSON CHEYNE, M.B., F.R.S. Second Edition. Pp. xii., 197. Edinburgh: Young J. Pentland. 1897.—In this edition the author has not in any way modified the methods of treatment which he recommended in the previous edition, of which this appears to be a mere reprint. If surgeons will follow the rules of treatment laid down in this book, which are practically the same as Lister's, they will have at least as good results as can be obtained by aseptic methods, with much less trouble and expense.

A First Series of Fifty-four Consecutive Ovariotomies, with Fifty-three Recoveries. By A. C. BUTLER-SMYTHE. Pp. viii., 119. London: J. & A. Churchill. 1897.—It is doubtless a matter